# THE Soybean Digest

*Weed control is still most*

*important problem. See page 6*

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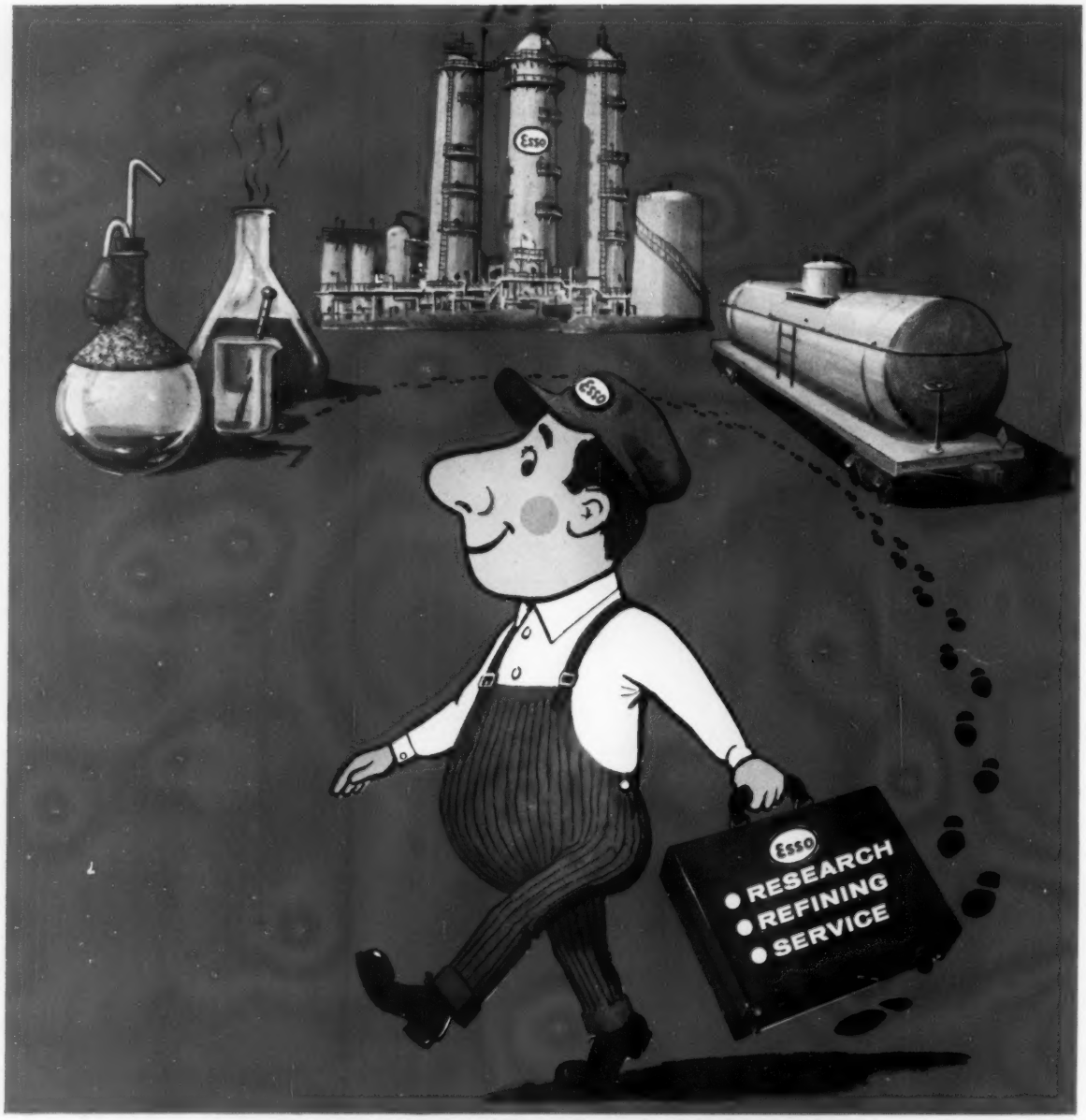


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# THE Soybean Digest

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Official Publication of American Soybean Association and Soybean Council of America, Inc.

HUDSON, IOWA

**Vol. 20** **April, 1960** **No. 6**


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**THE AMERICAN SOYBEAN ASSOCIATION depends for support and extension of its activities on membership maintenance and growth. Its expansion stems largely from word-of-mouth endorsement by interested members who wish to offer to other persons the same opportunity of enjoyment and benefit. Therefore, the Association asks your continued cooperation in nominating others and encouraging them to become members.**


## THE SOYBEAN DIGEST

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Objectives of the American Soybean Association include the bringing together of all persons interested in the production, distribution and utilization of soybeans; the collection and dissemination of the best available information relating to both the practical and scientific phases of the problems of increased yields coupled with lessened costs; the safeguarding of production against diseases and insect pests; the promotion of the development of new varieties; the encouragement of the interest of federal and state governments and experiment stations; and the rendering of all possible services to the members of the Association.

# EDITOR'S DESK

. . . By GEO. M. STRAYER

**OPPORTUNITY IN RELIEF PROGRAM** Soybean oil in the United States is in such abundant supply, along with cottonseed oil and lard, that prices are depressed. The United States is the one large producer with an excess supply. We should use it to our greatest possible advantage. We are not doing so.

Under P. L. 480 there is provision for the use of agricultural commodities in relief feeding programs. For a period of years wheat flour, corn meal, milk solids, and a number of other commodities have been made available to the church groups for use in overseas relief feeding programs. Butter was on the list when it was in surplus supply. Commodities need not be in CCC stocks to be eligible.

CCC owns about 20 million bushels of soybeans. On that basis soybean oil can be made available for relief feeding purposes, just as corn meal is made available. CCC owns no corn meal—it owns corn. It owns soybeans. Soybean oil—or vegetable oils, or fats and oils in general—should be made available to church and charity groups under this program.

The Department of Agriculture has recommended it. Other divisions of government have voiced opposition. White House approval has not been forthcoming up to this date.

Great impetus could be given to the Food for Peace program, a great service could be rendered to the church groups who need some type of fat or oil in their relief feeding programs, and temporary relief could be afforded the producers of overabundant supplies of fats and oils in the United States.

But most important is the opportunity to demonstrate by sampling and actual usage, to millions of people around the world, that soybean oil is an economic and high-quality product. Once usage is established, dollar purchases through a period of years are a possibility. How else can we better demonstrate the product we have to sell? White House approval is needed—*now*.

**WILL BE NO FIRE SALES ON CCC STOCKS** The sales policy on CCC stocks of soybeans—the approximately 20 million bushels of 1958 and previous crop beans in CCC hands and resealed on farms—plus the takeover of 1959-crop soybeans now under purchase agreement or loan, has now been announced. It is a continuation of the policy announced last September, with the support price in the area concerned plus 20¢ per bushel, or the market price, whichever is higher. Story on this announcement is carried on page 41.

Last fall over 30 million bushels of old-crop soybeans were sold under this same program—while the 1959 harvest was under way. This announcement should hold prices at levels which will pull soybeans out of the price support program, place them in processors' and exporters' hands. It should assist materially in bringing carryover stocks on Oct. 1, 1960, to a minimum. It should assist in keeping soybeans going into channels of consumption rather than into storage. It will help to clear the slate before the new-crop harvest begins. It will bring favorable prices to soybean producers. It is now known to all concerned that there will be no fire sales on CCC stocks of soybeans. It will result in carryover stocks being those held by CCC — and not purchased for crushing or export before Sept. 30. But these will be held to a minimum. It is a wise move from the standpoint of the soybean producer.

**NO SURPLUS OF BEANS IN SIGHT** One-half of the crop year has now elapsed. Six months of usage from 1959-crop supplies has now taken place. Exports are running well ahead of last year. Processing figures at the end of March show a slight decline from a year ago. Always at this time of year there are differences of opinion on where we go from here. Weather, prices, seed supplies, many other factors can yet affect the 1960 acreage—and the yields.

Mar. 1 planting intentions are up from a year ago. They are below those of 1958. There is no more accurate guide at this season of the year. Let's assume the figures are about correct.

The crop season is going to be late over much of the area. Here, where small grain seeding is often started by Mar. 25, 2 feet of snow is with us. More is falling today.

It probably means late and hurried field work, incomplete weed and grass control, lowered yields. If the late season continues it may mean less small grain and corn acreage, more soybean acreage. But it will be late planted acreage, with lower yields.

To me it all adds up to continued favorable prices on soybeans—certainly to no big price rises—but to only a nominal carryover, to an increase in acreage and a probable reduction in yields, and thus a favorable market situation on 1960 crop. Plentiful supplies—yes. Surpluses—no.

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**Timely culture is still most important.**

**Delays may be serious. But don't plant too early.**

# Weeds—Still Your Worst Enemy

—Photo by David R. Farlow

**THIRD cultivation at Strayer Seed Farms, Hudson, Iowa.**

*(Staff Written)*

"DUE TO THE cost and the annual variability of the presently recommended weed control chemicals in soybeans, we still favor proper cultural weed control methods," says Paul W. Santelmann, assistant professor of the department of agronomy, University of Maryland.

"Proper seedbed preparation, not planting too early, use of high quality weed-free seed, proper rotary hoeing and cultivation are still the best recommended weed control practices here in Maryland." As elsewhere.

Herbicides are recommended by a number of state experiment stations for:

1—Exceptionally weedy situations where even the best cultural methods do not control the weeds, or where it has not been possible to cultivate at the proper time. Oliver C. Lee, Purdue University extension botanist, notes: "I have yet to see a practice of cultivation that will handle giant foxtail in the row. I would say that in extreme cases of giant foxtail there is only one answer and that is to treat with chemicals over the row."

2—Use on other more tolerant crops in the rotation. A good program of weed control includes all crops, and the herbicides are used mostly on the other crops, at least until we find more satisfactory herbicides for use on soybeans.

Cultural practices on soybeans include three basic steps:

1—Seedbed preparation, using disk and harrow.

2—Across-the-row shallow tillage with spike-tooth harrow, weeder or rotary hoe.

3—Between-the-rows cultivation with shovel or sweep-type cultivator.

Soybeans are good competitors of weeds (except for grasses) when the soil is warm, but poor competitors in cold soil. That is why delaying planting until the soil is warm is universally recommended. Then the beans emerge quickly and have a chance to get ahead of the weeds.

## Seedbed Preparation

The old idea of seedbed preparation was to work the land several times to kill several crops of weeds before planting the crop. Some research men now question whether this system results in more effective weed control. But Iowa workers say that under conditions of heavy weed infestation, optimum growth and delayed seeding the technique may be effective.

In any case, the most important tillage operation in the preparation of the seedbed is the one just before planting. When this is done properly, soybeans emerge ahead of the weeds and the soil surface is left level as an aid to shallow tillage operations. Good seedbed preparation results in dry topsoil at the time of seeding with the beans being planted in the moist soil below. This gives the beans a boost and retards the weeds which mostly germinate in the top 1 inch of soil.

Delays in seedbed preparation due to wet weather may be serious if they delay seeding and may necessitate an extra tillage operation.

Illinois workers are convinced that farmers can cut down on field operations in preparing their seedbeds without also cutting yields. In tests with minimum tillage in which the ground was plowed and the seed planted with no other working of the soil, yields were just as high as with the usual method—plowing, disking, harrowing and planting.

Minimum tillage is not expected to increase yields but the Illinois men say it does cut costs.

## Shallow Cultivation

The spike-tooth harrow, the weeder and the rotary hoe all operate at shallow depths and at speeds that permit large acreages to be covered in a day. The rotary hoe generally gets the nod as first choice. It can be used over a wider range of soil conditions and bean seedling sizes than the other two implements. The low cost of the use of the rotary hoe permits economical weed control even when repeated two or three times.

You should begin with the rotary hoe after the majority of weeds have germinated but not yet emerged—when they are in the white. As soon as surviving weed seedlings become established and the bean seedlings are large enough to be seriously injured—say 4 to 6 inches high—then shift to row cultivation.

In general two timely and effective hoeings will be enough in many fields, but this is determined by the season and by the kind and size of weeds. The rotary hoe is useless after the weeds become well established. Drive the implement at a speed of 8 to 12 miles per hour and weight as needed to properly stir the ground.

Elroy J. Peters, research agronomist at the University of Missouri, notes: "In some cases it may be better to rotary hoe when the field is wet and the weeds are small rather than wait for dry weather and run the risk of having the weeds become too large. We think rotary hoeing can be done successfully when it is just dry enough so that the soil will hold the tractor and mud will not ball up on the rotary hoe."

Professor Santelmann at the University of Maryland states: "Many of our farmers are switching from ground-driven rotary hoes to power-takeoff rotary hoes and report much more satisfactory results with regard to weed control."

### Row Cultivation

In many cases one row cultivation may be enough, but two or more are common. In Purdue University experiments the highest yields and No. 2 soybeans were obtained with 40-inch rows when soybeans were rotary hoed twice and cultivated twice. Additional rotary hoeing, cultivating or hand weeding had little effect on yield but did produce No. 1 grade soybeans.

One rotary hoeing and one shovel cultivation dropped the yield only 1.4 bushels per acre as compared with two of each, but resulted in three times as many weeds, and the harvested beans graded No. 3.

A. H. Probst and O. W. Luetkemeier of Purdue University state: "We believe the best culture of row beans is two timely rotary hoeings plus two shovel cultivations. This treatment should give the most economical returns under most conditions and should keep weed populations near a minimum. Stage of weed and bean growth, and soil and weather conditions should govern when you do these jobs. With two hoeings and two cultivations we hoed about 16 and 22 days after planting and cultivated about 27 and 39 days after planting during the 3-year study."

Quoting Robert P. Upchurch, department of field crops, North Carolina State College, Raleigh: "Our biggest problem seems to be the control of broadleaf weeds which emerge with the soybeans and grow at about the same rate as the soybeans. Such weeds are cocklebur, lambsquarter and pigweed. These weeds may also germinate in the middle of the soybean rows after the last plowing. These particular weeds cause a problem not only from the standpoint of competition with soybeans for nutrients and water but they also interfere with the harvesting operation.

"The weedy grasses and certain types of broadleaf weeds do not seem to cause a great deal of a problem where the soybean farmer can perform his mechanical cultivation at an appropriate time. Many of our soybean farmers are controlling weeds in their soybeans by two to four cultivations. These can be performed at an expense of approximately 50¢ to $1 per acre. With this cost of controlling weeds, I seriously doubt that we could market and sell them an herbicide which would result in a saving."

**A roundup of the latest State Experiment Station recommendations**

# Herbicides for Use on Soybeans

*(Staff Written)*

WHERE SEVERE weed infestations cannot be controlled by the usual methods the use of chemicals may be profitable.

Farmers should give greater emphasis to the use of herbicides in tolerant crops grown in rotation with soybeans. W. C. Shaw, U. S. Department of Agriculture plant physiologist, Beltsville, Md., says the weed control problem should be treated as a total farm problem and not that of any one crop.

"A number of perennial weeds are difficult if not impossible to control in soybeans with the herbicides currently available," says Dr. Shaw. "However, I do not know of any weeds that occur in soybeans which cannot be efficiently controlled by the use of herbicides in crops grown in the rotation with soybeans. We can use Canada thistle as an example. None of the herbicides currently recommended for weed control in soybeans will control Canada thistle without injury to soybeans. However, Canada thistle can be effectively controlled with herbicides in wheat, corn, and alfalfa, and several other crops without injury to the crops.

"It seems imperative that we encourage farmers to solve their weed problems with herbicides in crops that will tolerate these herbicides rather than attempting to solve such weed problems only in the current crop season."

Grow your soybeans on the cleanest fields on the farm. Corn is a better competitor with weeds in the fouler fields.

W. O. Scott, University of Illinois professor of crops extension, notes it takes a 2-bushel increase in soybean yield to pay for a band treatment with an herbicide. In seriously infested fields, the herbicide would have to be successful only once in 3 years to pay, and the chances are the treatment will work about 3 years out of 4.

Robert P. Upchurch, assistant professor in the department of field crops, North Carolina State College, thinks the use of a good pre-emergence herbicide may be justified as a labor saver in the regular part of the weed control program on soybeans. "It is possible that the limiting factor, as far as the number of acres of soybeans which a given man can tend, is the fact that he must stop planting and go to cultivating," says Mr. Upchurch. "If one

**HERBICIDES USED ON SOYBEANS WITH STATE EXPERIMENT STATIONS RECOMMENDING (SOME FOR TRIAL ONLY)**

**Alanap-3** (NPA sodium salt N-1 naphtyl phthalamic acid) liquid or 10% or 20% granular
Ill., Ind., Ohio, Iowa, Ark., Miss., Ky., S. C., Mich.

**Randox** (CDAA 2 chloro-N,N-diallylacetamide) an emulsified liquid chemical or 20% granular
Ill., Ind., Iowa, Mo., Minn., Nebr., N. Dak. Wis., Ark., Ky., Md.

**Dow Premerge or Sinox PE** (amine salt of DNBP)
Iowa, Md., Wis., Ohio

**Amiben** (amine salt formulation ACP M-729, 3-amino 2, 5-dichlorobenzoic acid) manufactured by Amchem Products, Inc.

**Herbicidal Oil** (petroleum product. Cities Service No Weed Oil No. 1, Esso 38, and Lion Herbicidal Oil No. 1)
Ark., Miss., La.

**Napchlor or Sodium PCP** (sodium pentachlorophenate)
Miss.

**CIPC** (isopropyl N-[3-chlorophenyl] carbamate)
Ohio

had a sufficiently good pre-emergence herbicide, it could be sprayed on the soil as the soybeans were being planted, and the one individual tending a crop could continue to plant and treat without having to stop planting in order to start cultivating. Using this system, it might be possible for one man to make more money using an herbicide than not using an herbicide even though the use of such a chemical might be more expensive for the control of weeds than his conventional technique."

Orvin C. Burnside, assistant professor, department of agronomy, University of Nebraska, believes chemicals also have a place for less severe weed infestations, as a few weeds can produce an enormous amount of seed. "A farmer should think beyond the effect of the weeds on the one year's crop, as the seed produced by a few weeds will plague following crops," he says.

The use of herbicides to control weeds when soybeans are planted in narrow rows has been under test at the University of Arkansas for some years. The theory is that rows as narrow as 7 to 10 inches offer a yield advantage if weeds can be controlled. Results so far have not been uniform but have been encouraging enough to continue the work. "It seems to me that any adoption of the technique of growing beans in narrow rows must await the development of a more reliable herbicide," says R. E. Frans, associate agronomist in charge of the experiment.

Concerning the recent troubles over possible contamination of food and feed with chemicals, Staniforth, Sylwester, Weber and Lovely at Iowa State University comment: *"The recommendations of the manufacturer must be followed explicitly. Use (chemicals) only according to recommendations on the label.* Dosages often vary from area to area, on different soil types, and on soils of different organic matter content. Thus recommendations should be followed closely to insure maximum safety to the crops, and to comply with pesticide regulations of the U.S. Pure Food, Drug and Cosmetics Act."

Also, be sure to use only cleared and approved material. The new herbicide, Amiben, is an example. It appears very promising for use on soybeans but has not yet been cleared for use by Food and Drug Administration. Amiben can be used on seed fields provided the beans are not used for feed or food.

Some of the herbicides will be available in granular form this year. In most cases, they appear to be about as effective as the spray solutions, though some need further testing.

Granular herbicides have some advantages. They are ready to use as they come from the container. The equipment for applying is simpler to operate and maintain than sprayers. And rate of application is relatively constant at different tractor speeds, which is not true of sprays.

But granular herbicides are more expensive than liquids, and their use is limited to soil applications. Applying them to the plants is not effective.

## Recommendations

Following are state experiment station recommendations on the use of chemicals on the soybean crop (quantities named in most cases refer to active ingredients, pounds per acre, broadcast basis):

### ILLINOIS

**Randox** (CDAA) is recommended for controlling annual grasses in soybeans, particularly where giant foxtail is a problem. Rate for broadcast is 1 gallon per acre; for a 13- to 14-inch band over 40-inch rows, rate is 1⅓ quarts per acre. Granular Randox will be available in 1960. Rate of application will be 20 pounds of 20% granules where broadcast and 6⅔ pounds when applied in a 13-inch to 14-inch band over 40-inch rows. Results indicate that the granules are equally as effective as the liquid and the skin irritation problem is reduced when the granules are used.

**Alanap-3** (NPA) is the only herbicide recommended for controlling broadleaf weeds as well as grass in soybeans. Use pre-emergence at the rate of 2 gallons (4 pounds active ingredient) broadcast per acre, or 2⅔ quarts in band application. Granular Alanap is available this year and appears to be as effective as the liquid. Forty pounds of a 10% granular will be needed broadcast per acre, or 13⅓ pounds in a 13-inch band. For the 20% granular, 20 pounds will be needed broadcast or 6⅔ pounds in a 13-inch band. Alanap works especially well on annual broadleaf weeds except smartweed. In a few cases it stunted the beans early in the season in 1959 tests. The effect appeared to be temporary, however. Alanap will probably give satisfactory results on most soils when about half an inch of rain falls within a week or 10 days after application. The increased possibility of injury discourages its use on sandy soils.

### INDIANA

**Randox** (CDAA). Use pre-emergence at rate of 1⅓ quarts in 6 gallons of water for 14-inch band over 40-inch rows, and 4 quarts for overall treatment. Randox is most effective when applied to a dry soil on loam or heavier soils. Should not be used on sandy soil. Is practical only on fields heavily infested with weedy grasses. *Must be handled with care.* Follow directions on label.

**Alanap-3** (NPA). For over the row applied pre-emergence, 1⅓ quarts per acre on sandy soil, 2⅔ quarts on loam soil, and 5⅓ quarts on muck in 20 gallons of water recommended. For control of most

broadleaf weeds and annual grasses. Not effective against smartweed and perennial weeds. Most effective on loam or heavier soils and when soil moisture and temperature are favorable for early weed growth. May cause slight injury to soybeans. Both Alanap and Randox will be available in granular form this spring.

### OHIO

**Premerge** or **Sinox PE** (DNBP amine). Apply 4 to 6 pounds active ingredient in 40 gallons of water per acre 1 or 2 days before emergence for best results. In wide rows, treat over the row only to cut cost. Apply post-emergence 2¼ to 3 pounds in 40 gallons of water at cotyledon to first true leaf stage when weeds are up. Controls all emerged annual weeds, both grass and broadleaf. Do not use post-emergence when temperatures above 90° are likely.

**CIPC.** 6 to 8 pounds active ingredient in 20 to 40 gallons of water. May be used on date of planting to control annual grasses and most annual broadleaf weeds. Controls smartweed but not ragweed.

**Alanap-3** (NPA). 4 pounds in 40 gallons of water per acre. May be used on date of planting to control annual grasses and most annual broadleaf weeds. Controls ragweed but not smartweed. Band treat to cut costs.

**CIPC** plus **Alanap-3.** 2 pounds of each in 40 gallons of water per acre. May be used on date of planting to control annual grass and annual broadleaf weeds. Especially useful where both smartweed and ragweed are present. Band treat to cut costs. Has given consistently good weed control but has damaged soybeans in some instances, especially where cool wet weather followed application.

**Amiben.** 3 pounds in 20 to 40 gallons of water. Used on date of planting to control annual grass and annual broadleaf weeds. Band treat to cut costs. *Until officially cleared by FDA, use only on soybeans grown for seed not to be consumed by livestock or man.*

### IOWA

The following herbicides have proved most effective:

**Premerge** or **Sinox PE** (amine salt of DNBP) applied at rates of 8-10 pounds per acre, 2 to 3 days before emergence, will effectively control annual weeds, except under dry weather conditions. Treatment may cause moderate to severe bean injury.

**Alanap** (NPA) applied as a pre-emergence spray at a rate of 4 pounds per acre will usually control most annual weeds except smartweed. Treatment may cause some bean injury under wet conditions, and is not effective under extremely dry conditions.

**Randox** (CDAA) applied as a pre-emergence spray at 4 pounds per acre will effectively control annual grassy weeds but not broadleaf weeds. No serious soybean injury has been reported in 3 years of testing. Randox is not effective under extremely dry conditions.

**Amiben** is a new material currently under test and is applied as a pre-emergence spray at the rate of 4 pounds per acre. It will control a number of annual grassy and broadleaf weeds. No serious soybean injury has been reported in 2 years of testing. Not effective when dry weather follows application, as with other pre-emergence herbicides. Still on a trial basis.

### MISSOURI

**Randox** (CDAA) is the only herbicide recommended for soybeans. Not very effective on broadleaf weeds but does a good job on weed grasses.

**Napchlor** or **Sodium PCP** has been used in about 30 experiments and research workers think it is superior to any of the older herbicides, but it has not been cleared for use on soybeans.

States Elroy J. Peters, research agronomist at the University of Missouri: "We had the new herbicide **Amiben** in our experiments last year and it looks as though it may be equal to or slightly better than PCP. Of course these are only results from 1 year of testing." (Not cleared for use.)

### MINNESOTA

Pre-emergence applications of **Randox** (CDAA) are the best treatment now available. At 4 to 5 pounds per acre Randox has usually given satisfactory control of grasses with little or no injury to soybeans. To reduce cost, band applications can be used.

Over the past 10 years **DNBP, CIPC,** and **NPA** have been investigated as possibilities for controlling weeds in soybeans. All have occasionally caused injury to soybeans and have given erratic weed control.

Pre-emergence applications of **Amiben** at 4 pounds per acre appeared promising for the control of annual broadleaf and grass weeds in soybeans in tests conducted in 1959. It is not recommended as it has not been cleared for use by the Food and Drug Administration.

### NEBRASKA

**Randox** gives good annual grassy weed control when applied at overall rate of 5 to 6 pounds per acre pre-emergence. A 13-inch band application will reduce cost by two-thirds.

### NORTH DAKOTA

Annual grass weeds except wild oats can be controlled by **Randox** (CDAA) applied pre-emergence at the rate of 4 to 6 pounds per acre. Band application can be used to reduce per-acre cost. Control is effective for 4 to 6 weeks. Covering slightly by pulling a loop of log-chain over the sprayed area increases effectiveness in dry years.

### WISCONSIN

**Randox** is usually effective on grassy weeds when applied as a pre-emergence treatment at 4 pounds per acre.

**Dow Premerge** or **Sinox PE** (dinitro amine) may be applied in a similar manner at 6 to 9 pounds. Use the 6-pound rate on sandy soils. Band treatment at time of planting will reduce costs. For trial use post-emergence, dinitro amine may be applied at 3 pounds per acre when soybeans are in the crook stage. Use at least 20 gallons of water per acre.

### ARKANSAS

**Randox** or **Alanap-3.** Spray at a rate of 4 pounds per acre broadcast basis at time of planting for small-seeded annual weeds where past experience shows cultural practices inadequate. Soybean seed should be planted at least ¾-inch deep. Observe manufacturer's precautions in handling Randox. Some stunting and stand reduction may occur on lighter soils with Alanap. Injury only temporary and does not affect yield. Apply as a band application 12 to 20 inches over the drilled area at the rate of 1 gallon per acre of total spray mixture per inch of band treated. Banding reduces the cost per acre, and removal of weeds in the middles is more economical by cultivation.

Apply **Herbicidal Oil** post-emergence at 5 gallons per acre 2 to 3 weeks after planting. Best results when weeds are less than 1 inch

high. Direct spray laterally to drilled area at a height less than 1 inch above the soil surface. Use two fan-type nozzles, one on each side of the drilled area mounted on parallel action shoes or shields. Spray must not come in contact with the soybean leaf area.

Quoting R. E. Frans, associate agronomist, University of Arkansas: "With our rather large increase in acreage in the past 2-3 years the weed problem has been magnified, for farmers continue to put beans on the poorer and fouler areas. I think some breakthroughs may be expected shortly: **Amiben,** for example, shows promise as a pre-emergence material; EPTC in our tests last year looked very promising for controlling early growth of Johnsongrass when applied at the rate of 5 pounds per acre, disked in 2 weeks before planting. Both of these leads need considerably more work before they reach the stage of general recommendation."

### MISSISSIPPI

**Alanap** and **Napchlor** are recommended for trial use at planting time on soils of medium sandy loam to clay loam. Alanap is recommended at rate of .6 to 1.8 pounds per acre on 12-inch band for 40-inch rows, and Napchlor at from 3 to 6 pounds per acre, with the lighter rates going on the lighter soils.

A new pre-emergence herbicide, **Amiben,** has been tested for only one season in Mississippi and is not yet recommended. But it appears to be a satisfactory pre-emergence herbicide for soybeans.

A single directional spraying with one of the **Herbicidal Oils** has given good control of most young annual weeds in soybeans. An oil treatment of 5 gallons per acre when the soybeans are from 12 to 16 days past emergence is recommended when no pre-emergence chemical is used and an early annual weed problem exists. Under no conditions should the rate of 5 gallons per acre be exceeded. Cities Service No Weed Oil No. 1, Esso 38 and Lion Herbicidal Oil No. 1 have given satisfactory results in Mississippi tests.

### KENTUCKY

**Alanap-3** or **Randox** may be used as row-band spray treatments at planting time to help control early growth of annual weeds in the row. Use as indicated on the label. Either chemical will be more effective if soil is moist enough to cause weed seeds to sprout within 2 weeks after treatment.

Even though an herbicide is used, the usual row cultivations generally are needed, and sometimes an early rotary-hoeing will be beneficial also.

### LOUISIANA

No pre-emergence chemicals are recommended, as they have not proved out in tests in Louisiana.

**Herbicidal Oils,** applied at the same rate and in the same manner as for cotton, are recommended for early season post-emergence weed control.

### MARYLAND

No highly effective herbicide for use in soybeans has been developed. Most chemicals must be used pre-emergence, which usually results in early weed control but little control of pigweed, lambsquarter, and Jimson weed that germinate later.

For pre-emergence use, **Dow Premerge** or **Sinox PE** (dinitro amine) have generally proved the most desirable. Use at 4½ to 6 pounds per acre on an overall basis, with some users reducing the cost by band treatments. For best results, delay treatment until just before the beans emerge. Use the lower rate on sandy soils. Heavy rains immediately after treatment may cause soybean injury.

**Randox** may be used at 3 to 4 quarts per acre for annual grass control.

### SOUTH CAROLINA

Only herbicide being currently recommended is **Alanap-3,** applied at the rate of 4 pounds per acre, broadcast basis, to 13-inch bands over the rows immediately after planting and preferably as part of the planting operation. With rows 40 inches apart approximately 5 pints per acre of the 2-pound-per-gallon commercial formulation of Alanap-3 would be required. Under reasonably favorable conditions Alanap-3 is capable of suppressing cocklebur, coffeeweed and Amaranthus species, in addition to fairly good initial crabgrass suppression.

### GEORGIA

No pre-emergence or post-emergence herbicides for soybeans are recommended at the present time.

However, current research results are promising, according to Ellis W. Hauser, USDA research agronomist, Experiment, Ga. The herbicide, **Amiben** gave excellent weed control in 1959 with no injury. Also, certain mixtures of herbicides at low rates gave good weed control with better potential crop safety than higher rates of the mixture components used alone. The chemical **Prometone** was too phytotoxic on soybeans at rates normally required for good herbicidal action, but if a low rate of Prometone was combined with a low rate of **CIPC,** for example, herbicidal efficiency was maintained and soybean tolerance was increased.

### ARIZONA

Satisfactory chemicals have not been found to date. Chemicals which will control the weeds have been too severe a treatment for the crop.

## Amiben Offered Under Experimental Use Label

AMCHEM PRODUCTS, Inc., will offer the herbicide Amiben (formerly called Amoben) in 1960 under an experimental use label, the company has announced.

Amiben (3-amino 2,5-dichlorobenzoic acid) will be offered for use in a liquid and granular formulation.

The liquid amine salt formulation (ACP M-729) should be used as a pre-emergence application at planting time for seeded crops including soybeans. The manufacturer states that Amiben is more effective than most other pre-emergence herbicides in that it will control equally both annual grasses and broadleaf weeds.

Where excessive rains, up to 9 inches of water, were encountered within 5 weeks after application, Amiben gave good residual weed control. It apparently does not leach through the soil readily when excessive rainfall occurs following application, and no crop injury results.

Amiben is similar to most other pre-emergence herbicides in that inconsistent weed control may result when applied during prolonged dry periods.

## Canadian Crush 16 Million Bu. In 1957

CANADIAN processors crushed 16.1 million bushels of soybeans in 1959, up 2 million bushels from 1958, Foreign Agricultural Service, U. S. Department of Agriculture, reports.

The 1959 crushings produced 170.3 million pounds of soybean oil and 383,038 short tons of oilcake and meal.

Crushings of flaxseed in 1959 were 2.87 million bushels, down 849,000 bushels from a year earlier.

Tom Bradley has become territory manager of a region in northeastern Arkansas and southeastern Missouri for McMillen Feed Mills. Jim Gay has been promoted to territory manager of a southwestern Arkansas area.

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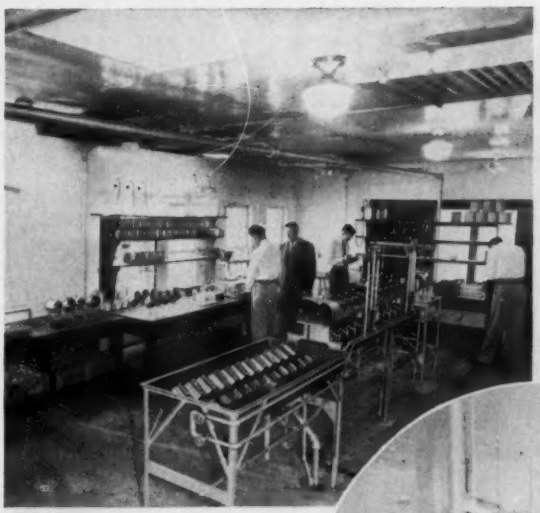

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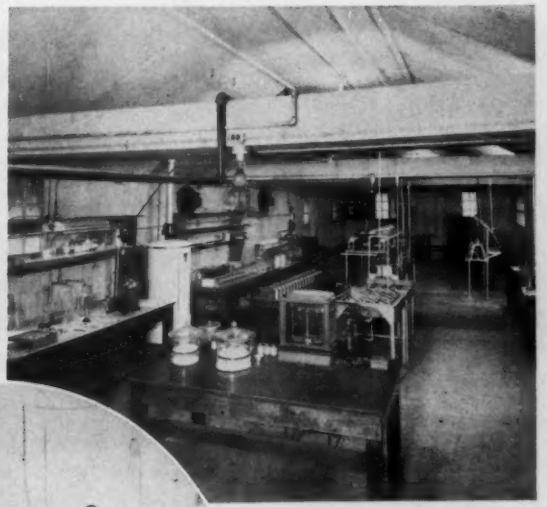

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# THE NEWS IN BRIEF

## THE CROP, MARKETS AND OTHER ITEMS OF NOTE

**Outlook for Soybean Acreage**

**Canadian soybean acreage may be up about 3% this spring,** from 251,000 to 258,000, all in Ontario, according to the Dominion Bureau of Statistics. The 1960 estimate is not yet available on a small soybean acreage in Manitoba.

With northern snow banks melting fast Apr. 1, it appeared that acreage of U.S. small grains and other early planted crops may suffer due to the late spring, with a possible pickup in acres of late planted crops such as soybeans.

Leo C. Lester, Worthington, Minn., noted that farmers in his area were unable to plow cornstalks last fall, and a late wet spring could make it too late for corn, with a resulting larger soybean acreage.

W. T. McKinney, Anguilla, Miss., wrote that no 1960 farm work had been done by the last half of March, and that conditions could shift some corn acreage into soybeans.

Concerning the 1960 soybean acreage, Daniel F. Rice, Chicago, comments: "If farmers act in their own best interests **they will decrease soybean acreage by at least 15%** and put the land into corn . . . Our domestic oil requirements do not warrant a production of over 400 million bushels. By reducing soybean acreage, the farmer will maintain a fair price for the beans he does raise."

**Comment On Price Outlook**

Iowa State University farm economists Francis Kutish and Marvin Skadberg say **substantial soybean price rise,** barring poor 1960 crop prospects, **does not seem likely.** They note smaller pig numbers, which means less demand for soybean meal, heavy supplies of vegetable oils and lard that will tend to hold oil prices down, and the competition of all oil in the vegetable oil market.

But the U.S. Department of Agriculture is staying by its earlier estimates for substantial exports of soybeans and vegetable oils during the balance of the crop year. (See Washington Digest page 40.)

July-January exports of vegetable oils and oilseeds were up nearly $90 million in 1959-60, according to USDA. The total was $340 million compared to $251 million a year earlier. Soybeans alone accounted for one-half the total increase. Vegetable oil exports were highlighted by a four-fold increase in cottonseed oil while soybean oil exports gained slightly over a year earlier.

Most of the export expansion in vegetable oil was in dollar sales as shipments under government programs were about the same both years.

Factory and warehouse stocks of crude and refined were down over 10 million pounds at the end of February as compared with January, the Bureau of the Census reports.

Some observers are noting that if USDA's estimate of a 40-million-bushel carryover of soybeans into the next crop year is not exceeded, **some tightness of free supplies could develop by late summer.**

**Germination Reports Are Varied**

Germination percentage and embryo vigor are greatly reduced in many lots of soybean seed produced in 1959 in the Southeast, according to R. P. Moore, North Carolina crops research professor, writing in Seedsmen's Digest. Most extensive trouble occurs within varieties that matured early and remained in fields during extended periods of wet, warm weather, he states.

A large percentage of seed soybeans that passed field inspection last fall are now being rejected for certification due to low germination, the Virginia Crop Improvement Association reports, and cautions **against planting seed that has not been tested for germination.**

Supply of certified seed of Chippewa, Blackhawk and Adams in Iowa is not equal to the demand, according to Iowa Crop Improvement Association.

**Suez Canal Oilseed Shipments Up**

Northbound shipments of oil-bearing materials through the Suez Canal last December were triple the tonnage of November and 60% above December 1958, according to Foreign Agricultural Service, USDA.

Soybean shipments in December were 5.8 million bushels, compared with only ½ million bushels in November and 2.6 million in December 1958. October-December Canal shipments were 8.6 million bushels, **more than double the 4.2 million bushels shipped in the first quarter of the 1958-59 marketing year.**

FAS in March announced issuance of a purchase authorization to Peru in March to finance purchase of up to $900,000 worth (approximately 4,000 metric tons) of cottonseed oil, soybean oil or lard under P. L. 480. Sales contracts made between Mar. 24 and June 30 will be eligible for financing.

FAS also announced an agreement with Egypt to finance sale of $4 million worth (about 33 million pounds) of U. S. soybean or cottonseed oil. Purchase authorizations will be announced later.

Brazil's 1960 soybean crop, harvested between February and May, is expected to be about 8.1 bushels from approximately 383,000 acres, FAS reports. This will be one-third larger than the 5.9 million bushels harvested from about 289,000 acres in 1959.

**Soybean Council Activities**

The Soybean Council of America and FAS are making final arrangements for the 29th International Trade Fair at Poznan, Poland, June 22-26. Polish and U. S. soy products will be displayed in the same booth, according to plans. Personnel to manage the exhibit will soon be named.

The third annual animal nutrition seminar at Santander, Spain, this summer is expected to draw about 1,000 interested people, according to Javier de Salas, the Council's director for Spain. Two Council representatives from the United States will be named shortly and the mobile exhibit will show the importance of U. S. feed grains and soybean oil meal in balanced feeding.

The British Food Fair will be held at London, England, Sept. 1-17, FAS recently announced. U. S. and British soy products now reaching the consumer will be displayed. Council representatives to manage the exihibit will soon be named.

**Continue Casein Duty Suspension**

The U. S. Senate on Mar. 29 agreed to continue the suspension of duty on casein for a 3-month period, with a hearing on Mar. 31 to consider the 3-year extension as proposed in House-passed bill HR 7456.

Appearing for the American Soybean Association at the hearing to testify against the House bill were ASA executive vice president Geo. M. Strayer and Arkansas director Jake Hartz, Jr. Since imported casein competes directly with isolated soy protein, it is the **position of ASA that the duty on casein should be restored.** Suspension was to have expired Mar. 31.

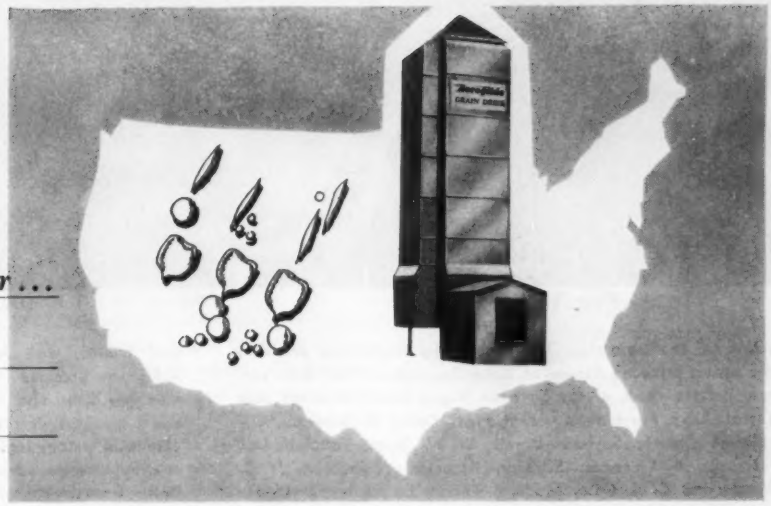
**Lower Storage Rates?**

The grain trade was widely represented at the U. S. Department of Agriculture's conference in Kansas City, Mo., Mar. 30, and strongly opposed the lower grain storage rates proposed by the Department.

The rate reduction would bring payment for storage of soybeans and grains to a uniform rate of 13.505¢ a bushel per year or .037¢ a day for both terminal and country warehouses in all parts of the country—a reduction averaging 19% under present rates.

The proposals were generally opposed by the trade.

**U. S. output of mellorine and other frozen desserts made with fats and oils other than a milkfat totaled 2,890,000 gallons in February—15% more than February a year ago, and 38% above the 1954-58 average for the month.**



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—Photo by Max McDonald

—Photo by David B. Bramson

—Photo by Max McDonald

**SOME OF the more than 300 people who staged and attended the recent soybean forum at Lake Providence, La. Left picture, left to right, at the Soybean Digest booth, Michael Ann Terral, Lake Providence, receptionist; David B. Bramson, circulation director, Soybean Digest; W. M. Scott, Tallulah, La., farmer and American Soybean Association director; J. C. Byram and C. E. Goss, Madison Parish, La., farmers. Center picture, cutting tape for future radio program is Marvin Vines, farm service director, Radio Station KTHS, Little Rock, Ark. (right); with Jake Hartz, Jr., ASA director, Stuttgart, Ark., who presided (left); and Harvey P. Grant, Jr., secretary-manager Louisiana Delta Council, Delhi, La. Right picture, main speakers, left to right, Hartz; Grover Dowell, Arkansas extension entomologist; David R. Farlow, assistant to the executive vice president, ASA; Dr. E. E. Hartwig, agronomist, Delta Branch Experiment Station; and John Terral, Terral-Norris Seed Co., Lake Providence. Meeting was attended by farmers and buyers.**

# Soybean Varieties, Diseases and Practices in the Midsouth

**By E. E. HARTWIG**

**Research Agronomist, Delta Branch Experiment Station, Stoneville, Miss. From his talk before the Tri-State Soybean Production and Marketing Forum, Lake Providence, La.**

SOYBEANS ARE now either the No. 1 or No. 2 crop from the standpoint of land use on many of your farms. Because of the high percentage of land used for soybeans, the success of your farming operation will be closely related to your success with soybeans. Soybeans are well adapted to the area and their management requirements are such that the crop can be fit in very satisfactorily with the production of cotton, corn, or rice.

One of the first requirements for success with soybeans is to set a goal to produce 35 to 40 bushels per acre. This goal can be reached in most years and exceeded in some years. The basic requirements to produce such a yield are to plant an adapted variety during May or early June, obtain a uniform stand, and then control weeds and insects.

## Disease Resistance

Much of our soybean research program at the Delta Station is devoted to a breeding program to develop varieties better adapted for the Southern States. In this program we are also studying the factors which make one variety better than another. We have learned that diseases can reduce yields. The high humidity along with high temperatures, which is common during the summer months, is favorable for the development of leaf diseases. The most efficient method of controlling these diseases is through the use of resistant varieties.

The disease bacterial pustule is present on susceptible varieties over much of the South each year. Yield reductions of 8% to 15% have been measured. The varieties Lee, Hood, and Hill are resistant.

Another common disease in the Delta area is target spot. Yield reductions of 18% to 32% have been measured on susceptible varieties in 6 of the past 11 years. Dortchsoy 31 is one of the most susceptible varieties. Jackson, Lee, Hood, Hill, and Bienville all have a high degree of resistance.

Much publicity has been given to the cyst nematode since it was found in west Tennessee. All of our best adapted varieties are susceptible. We do have a source of resistance and work is progressing as rapidly as possible to add this resistance to our better varieties. Although we are attempting to develop resistant varieties as rapidly as possible, a 2-year rotation is very effective for producing soybeans on infested soil. Crop damage from cyst nematodes has been observed only on the very light sandy soils.

Another factor which has received considerable attention in our breeding program is seed holding. Shatter resistance in a variety is additional insurance against losses after the crop is produced and permits harvesting a larger acreage with each combine. Lee has the highest degree of shatter resistance of any variety available but Hill follows closely.

The varieties Hill, Hood, Lee, Jackson, and Bienville are all capable of producing high yields of good quality seed. They cover a range in maturity of 6 weeks and differ in growth characteristics. For the area represented here, I would rate Lee the No. 1 variety around which to add either earlier or later varieties for convenience in harvesting and other management parctices. Lee has a 10-year average of 43.5 bushels per acre in plots on Sharkey clay at Stoneville. Lee is resistant to the major diseases common to the area and has excellent seed holding.

Hood was named in 1958 and seedstocks are now available at reasonable prices. Hood is 8 to 10 days earlier than Lee. It is a yellow-seeded variety released specifically to replace Ogden. Hood has produced

higher seed yields in all areas than Ogden and is superior in seed holding. Hood does not hold its seed as well as Lee. At Stoneville, Hood has an 8-year average yield 8% below that of Lee, but at Stuttgart Hood has a 5-year average slightly above Lee. Growth characteristics are much like Ogden.

Hill is a new variety named in 1959 and seed is still limited. It is 14 to 18 days earlier than Hood. Hill resembles Lee in many of its characteristics and holds its seeds nearly as well. It is somewhat better suited for production in the north Delta than in the central or lower Delta. It is also better suited for production on the heavier soils. On clay in Mississippi Delta tests it has a 6-year average of 8-10% less than Lee.

Jackson is 10 days later and 12-15 inches taller than Lee. The 10-year average yield for Jackson at Stoneville is 8% below that for Lee on the sandy loam. Jackson does not hold its seed as well as Lee. The taller growth of Jackson may be preferred by some growers.

Bienville is 3-5 days later than Jackson and averages slightly taller. In most areas the production is very similar to that of Jackson. At Baton Rouge, Bienville has produced higher seed yields and better quality seed than Jackson.

### Weed Control

Weed control is essential if top yields are to be produced. A good chemical for effective weed control in soybeans is still something for the future. On land known to be heavily infested with weeds, delaying planting until late May or early June will permit preplanting cultivation to destroy many weeds and weaken others. It also will enable soybeans to emerge quickly and grow rapidly and get ahead of the weeds.

The rotary hoe is effective for destroying emerging weed seedlings but will do nothing to established Johnsongrass or nut grass. Summer fallowing after harvesting a grain crop is perhaps the most efficient method of controlling Johnsongrass.

On the heavy soils where many of our soybeans are grown, the hazards of obtaining a stand can be reduced appreciably through the use of a planter equipped with double-disk openers. This equipment permits placing seed in firm, moist soil where it will germinate immediately. Rapid emergence is very beneficial from the standpoint of weed control.

After the crop is produced care should be taken to adjust the combine so that harvest losses are held at a minimum. Cutting high enough to leave 5 or 6 pods per foot of row means a loss of 1 bushel per acre.

Thirty-six to 40 beans on the ground per square yard is also 1 bushel per acre. Harvest losses are known to run as high as 8 to 10 bushels per acre. Additional care to save these beans adds little to the production costs, but adds appreciably to the profit.

Two very worthwhile attachments for the combine are a rotary cleaner and a straw shredder. The rotary cleaner will remove the weed seeds and aid in putting a quality product on the market. The straw shredder chops the straw into short pieces and spreads it evenly over the ground. The straw can then be worked into the soil with little difficulty with other machinery.

## Irrigation Jumps Soybean Yields in Illinois

UNIVERSITY OF ILLINOIS agronomists got some hefty responses from irrigating soybeans last year.

The first week in August they put 1½ inches of water on plots at Urbana and the beans yielded 45.3 bushels an acre, a startling response for that amount of water. Unwatered plots averaged 33.6 bushels. The soil in both cases was a highly productive Drummer clay loam.

It's felt the large response to irrigation was due mostly to the uncommonly dry growing season. These are only first-year results. Researchers will continue the study to see whether irrigation would pay during a year with more rainfall—something that doesn't seem too likely.

Soils man D. B. Peters heads the irrigation study, which is a comparatively new venture in soybean work.

**GROUP at recent West Memphis, Ark., soybean production meeting. Left to right, Bill Lendermon, associate Crittenden County agent; David R. Farlow, assistant to the executive vice president, American Soybean Association; George Newberry, assistant county agent; and James Young, Jr., Crawfordsville, Ark., who presided.**

## Production Meeting by Crittenden County Growers

CRITTENDEN COUNTY growers gathered recently at the first annual soybean production meeting at West Memphis, Ark., to hear a discussion of the problems of growing and marketing the crop. The meeting was sponsored jointly by the Crittenden County Farm Bureau and the Extension Service.

James W. Young, Jr., Crawfordsville, Ark., producer, presided at the discussion meeting. A total of nine speakers reviewed such items as varieties, chemical weed control, cultural practices, irrigation, fertilization, farm storage, and the processing, utilization and export of soybeans.

David R. Farlow, assistant to the executive vice president, American Soybean Association, called the U. S. farmer the world's greatest producer of agricultural commodities and the world's worst salesman of the same. He said uncertainty about quality and unreliability of shipments, coupled with lack of salesmen are two key factors curbing the effectiveness of the U. S. soybean export program.

Arkansas was fourth in the nation in soybean production last year and growers in Crittenden County planted about 150,000 acres to the crop.

**MOLYBDENUM-treated soybeans on left are larger than untreated beans on right, cards held by grower Markus Koch, Sikeston, Mo., indicate.**

## Use of Molybdenum Ups Bean Yields in Missouri, Illinois

**By WILLIAM M. STILWELL**

**Climax Molybdenum Co.**

THERE ARE indications in many areas of the Midwest that soybean acreage treated with the trace element molybdenum will produce more bushels than similar acreage left untreated. This represents the first time that substantiated data have been compiled on the effect of molybdenum on soybeans.

Key to the action of the element on soybeans and other legume crops is that it helps the bacteria in the root nodules to convert atmospheric nitrogen into usable nitrates. These nitrates not only benefit the living plant but when the foliage is plowed under it carries the additional nitrate back into the soil—hence the next crop is also helped.

Large acreages in Missouri and Illinois, in particular, received treatment with molybdenum during the past year. Farmers experimenting with the element tried it on a portion of their commercial crops—planting treated and untreated beans side by side in order to compare development carefully. Many noted more rapid growth and better root development in the molybdenum-treated rows a few weeks after planting. Others observed little difference during the early growing season but discovered more pods to the plant as harvest time neared.

In all of the successful molybdenum trials on soybeans in 1959, the element was applied directly to seed prior to planting. It is interesting to note that in early use of molybdenum on other crops application was made to the soil as a fertilizer. Research at Washington State University, however, showed that seed treatment gets the micronutrient to the plant more rapidly and is also more economical.

Just recently a special form of molybdenum was designed especially for seed treatment. Known as Moly-Gro, it contains a built-in adhesive—does not require addition of a sticker material like conventional forms of the element. Equally important, it is compatible with legume inoculant bacteria.

Soybean harvests around Benson, Mattoon, and Grand Chain, Ill., have shown an average of 3 bushels more per acre from molybdenum-treated seed. Joseph Eckoff in Benson, for instance, reported that the treated acreage yielded 3½ bushels more than untreated. Milford Jones in Grand Chain, Ill., found that his treated acreage returned about 5 bushels more. Treated acreage around Benton City, Huntsville, Vandalia and Sikeston, Mo., showed similar increases. Almost all types of soil were treated and responded well, although indications are that acid soils respond best. Seed treatment included Clark, Hawkeye, Harosoy, Lincoln, Hood, Dorman and Scott—and all returned increased yields.

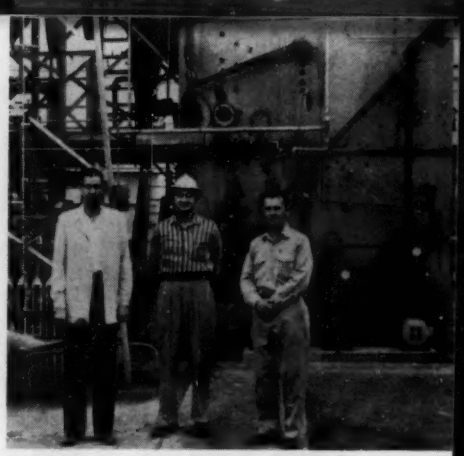
*P. H. Reid, E. J. Kamprath, and H. J. Evans stated at the soybean nutrition symposium at the meeting of the American Society of Agronomy: "Growth responses to molybdenum have been obtained on acid soils but not on soils which are adequately limed. However, soybeans which have been supplied with molybdenum have fixed more nitrogen than have those which received no supplemental molybdenum. This shows that molybdenum is involved in the nitrogen fixation process."*

—EDITOR.

## Japan's 1959 Crush Was 1.6 Million Tons

CRUSHINGS of oilseeds in Japan, at 1,669,000 metric tons in 1959, increased 15% from 1958. Production of vegetable oils, at 444,000 tons, rose 21%, according to preliminary data of the Japanese Ministry of Agriculture and Forestry, the Foreign Agricultural Service, U. S. Department of Agriculture, reports.

Imported soybeans in 1959, mainly from the United States, yielded 2.7% more oil than domestic soybeans. Crushings of imported soybeans for oil increased over 14% from 1958.



**WILLIAM King Self, Riverside Oil Mill general manager; Hill Blalock, assistant manager; and Gene C. Mason, French Oil Mill Machinery Co. engineer, stand in front of newly installed French vertical basket extractor.**

## Marks, Miss., Oil Mill In Expansion Program

RECENT COMPLETION of the expansion program of solvent extraction facilities for soybeans at the Riverside Oil Mill, Marks, Miss., is announced by William King Self, general manager.

A French vertical basket extractor together with a French desolventizer and distillation equipment have been added to the existing plant to bring the potential capacity to 400 tons per day. Very satisfactory operation has been obtained, according to Mr. Self.

The plant is operated by J. I. Munson, general superintendent; and A. R. Bowie, plant superintendent. Installation was made under the supervision of Gene C. Mason, French Oil Mill Machinery Co. engineer.

## Cherokee Is Leading Kansas Soybean County

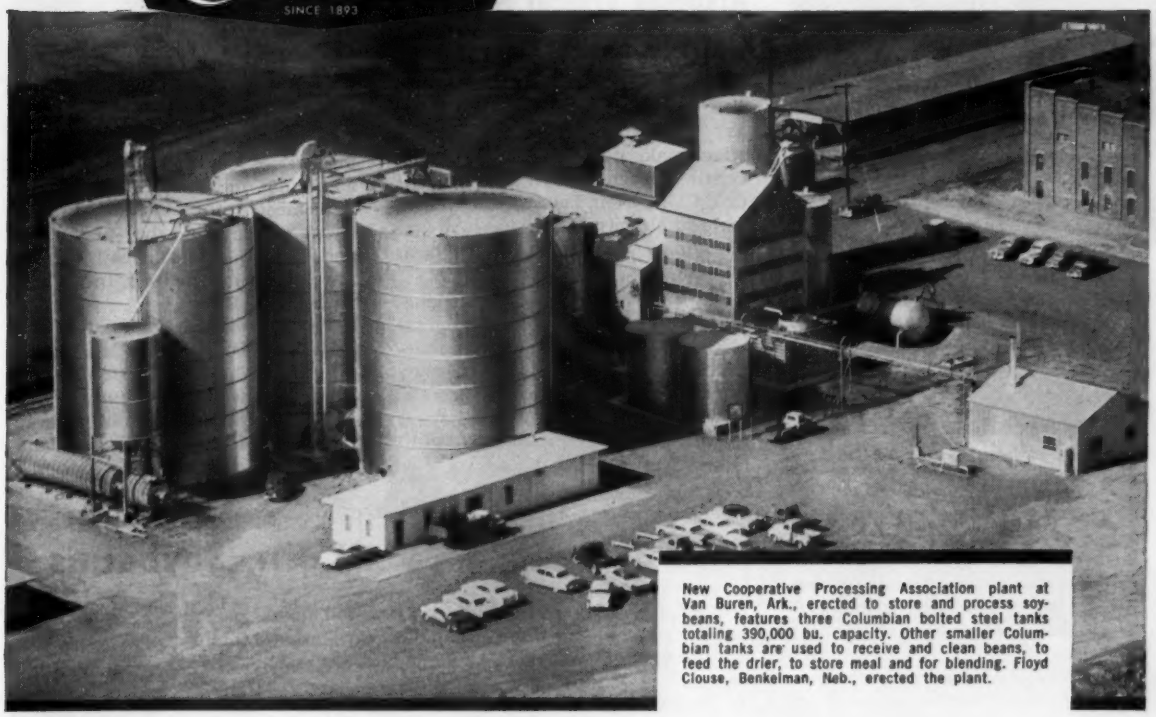
CHEROKEE COUNTY led the state of Kansas in soybean production for the sixth consecutive year with 1,132,500 bushels in 1959, and was the only million-bushel county, according to Kansas crop and livestock reporting service.

Coffey County ranked second with 970,400 bushels, followed by Crawford with 772,200, Franklin with 662,400, and Osage with 494,000 bushels. All are in eastern Kansas. Cherokee was the leading soybean-producing county for the 10-year period. Cherokee also ranked first in harvested acreage in 1959, with 58,100 acres.

In average yield per harvested acre, Anderson and Greenwood tied for the highest with 26 bushels.

# C.P.A. uses BOLTED STEEL TANKS... *in new soybean plant*

MASTER-CRAFTED BY COLUMBIAN SINCE 1893



New Cooperative Processing Association plant at Van Buren, Ark., erected to store and process soybeans, features three Columbian bolted steel tanks totaling 390,000 bu. capacity. Other smaller Columbian tanks are used to receive and clean beans, to feed the drier, to store meal and for blending. Floyd Clouse, Benkelman, Neb., erected the plant.

Farmers around Van Buren, Ark., raise lots of soybeans. They needed a local market and Cooperative Processing Association wanted to provide it. Consulting with Columbian engineers and with Columbian recommended contractor, Floyd Clouse, the plant was planned and erected in time to handle the 1959 crop.

This plant receives, cleans, stores and dries soybeans and processes them into meal and oil. Some of the meal is sold locally, much of it goes to feed mills in the mid-west for blending into formula feeds. It s success is evidenced by the fact that substantial expansion of its capacity is already under way. (That's a valuable plus in Columbian designing and Columbian bolted steel construction — perfectly matching expansion is quick and economical because "Look Ahead" engineering plans it that way.)

You may never handle or store soybeans. But whatever your grain storage problem, tight, fire-safe, weatherproof, vermin-proof, low-cost Columbian Master-Crafted Bolted Steel Tanks are ideal for profitable handling of *all* grains, including wheat, corn, oats, rice, barley, milo and dehydrated alfalfa under inert gas pressure.

Get the new Columbian Bolted Steel Elevator book right away. Illustrated and full of helpful ideas, it's free. Write for your copy now.

Member, American Dehydrators Association; Associate member, Grain and Feed Dealers National Association

**COLUMBIAN STEEL TANK CO.**

P. O. Box 4048-U Kansas City, Mo.

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*STEEL: Master-Crafted by Columbian . . . First for Lasting Strength*

We do contract steel fabrication

**MR. WALLACE (right) with tour secretary and the train engineer at start of crop tour organized by the Ontario Soil and Crop Improvement Association.**

## W. M. Wallace Is ASA's New Canadian Director

W. M. WALLACE, of Woodslee, Ontario, Canada, was elected the Canadian member of the board of directors of the American Soybean Association at the last annual meeting. He is vice president of the Ontario Soya-Bean Growers Marketing Board.

Mr. Wallace farms 300 acres in Essex County, Ontario, about 25 miles southwest of Detroit, Mich. His main crops are soybeans, hybrid seed corn, fall wheat and burley tobacco.

He holds the degree of bachelor of science from Toronto University, which he obtained in 1923 after 4 years of study at Ontario Agricultural College.

Mr. Wallace is a director and past president of the Ontario Seed Corn Growers Marketing Board. He is a director and past president of the local Farmers Mutual Fire Insurance Co. He is vice president of the Essex district high school board, and director of the Essex County Federation of Agriculture.

He is past president of the Ontario Soil and Crop Improvement Association. A project of the association in which Mr. Wallace took an active part was the organization of crop tours to other parts of Canada in cooperation with Canadian National Railways. Rural people by private train visited scenic points of interest from Alaska to Halifax. Many side trips were arranged by steamer and bus enroute.

The tours were very popular. Many rural people took part in the tours, which were run for four consecutive summers. The tours have continued under a private travel agency, with a visit to Britain last summer, and one planned for Continental Europe this coming summer.

## Arkansas Breeder Makes Trip to Latin America

G. A. HALE, Hale Seed Farms plant breeder, and Mrs. Hale, Burdette, Ark., recently returned from a 30-day plane trip to Latin America after making stops in Venezuela, Brazil, Paraguay, Uruguay, Argentina, Chile, Peru, Panama and Guatemala to observe the agriculture and particularly the cotton and soybean breeding in those countries.

Mr. Hale writes: "Soybean production down that way is in its first stages or about where our production was some 30 years ago, but they are interested in increasing production and were anxious to learn about our varieties and production methods.

## Plant Expansion by Minnesota Processors

PLANT EXPANSION by the Tri-County Cooperative Soybean Association, Dawson, Minn., in 1959 was by far the largest yet undertaken in the firm's 10-year history, Manager Joe Givens reports.

Equipment and buildings were added to increase processing capacity from 90 tons to over 200 tons of soybeans daily.

New equipment included a new Crown Iron Works Co. extractor, a meal desolventizing and toasting unit, additional evaporators and condensers, additional preparation equipment, a new boiler, 500,000 bushels of soybean storage space, additional oil storage, and a new bulk meal storage tank.

Engineering in the preparation and extraction areas was by Davidson-Kennedy Associates, Inc., Chicago Heights, Ill.

The soybean storage building is by Pedersen Brothers, Montevideo, Minn.; the bulk meal storage tank by Glasslined Bulk Storage, Inc., Hopkins, Minn.; and oil storage tanks by Minneapolis Tank Manufacturing Co., Minneapolis, Minn.

# Giant Foxtail Vs. Corn, Soybeans

GIANT FOXTAIL (alias "wild millet") will begin again to compete with corn and soybeans this summer in an event that takes place annually in Illinois fields. Several years ago most of the "enthusiastic" competition was in central Illinois. Now the event has become more "popular" and is being held annually in other areas of the state as well.

Giant foxtail competes strongly with corn and soybeans for plant nutrients, water, space, and light. How concerned should we be about sharing some of these growth essentials with invading weeds like giant foxtail? To help answer this and similar questions, the University of Illinois agronomy department began a 3-year project in 1957 to study the effects of foxtail on corn and soybean yields.

To make the results of this field research as realistic as possible, the middles in the soybean plots were kept clean by ordinary cultivation. But, as often occurs in farmers' fields, a 3- to 4-inch strip of foxtail was left growing in the rows. It was thinned to various degrees by hand so that the remaining amount ranged from none in the check rows to as much as 70 (1957) and 28 (1958) foxtail plants per running foot of row where no thinning was done.

These tests were conducted on a good silt loam soil known to have a natural infestation of giant foxtail. The results of 2 years of testing are given in the table below. Soybean yields were converted to 12% moisture.

| Foxtail stand | Soybean yield, bu./A. | | |
|---|---|---|---|
| | 1957 | 1958 | 2-yr. av. |
| Check-no foxtail | 43.1 | 37.1 | 40.1 |
| 1 plant every 24 inches | 42.3 | 33.5 | 37.9 |
| 1 plant every 12 inches | 41.6 | 33.1 | 37.4 |
| 1 plant every 4 inches | 40.4 | 32.4 | 36.4 |
| 1 plant every 2 inches | 39.5 | 28.9 | 34.2 |
| 1 plant every inch | 35.9 | 26.5 | 31.2 |
| Unthinned stand | 26.0 | 26.4 | 26.2 |

The yield reductions strongly support the need for growing concern about the increasing problem with giant foxtail. We can readily see how profitable an additional investment of time, money, and effort could be if it provided for the successful control of this grass.

After 2 years' experience with these tests, it seems obvious that we must make a special effort to do everything possible to eliminate competition from foxtail and similar weeds if we are to expect the most efficient production and highest yields of soybeans.

Harold Doubet, Williamsfield, Illinois, got 5 extra bushels per acre when he treated his soybean acreage with "Moly-Gro".

Frank Van Horne, Sikeston, Missouri, grower, holds a "Moly-Gro" seed-treated soybean plant at the right. Compare root size and foliage with untreated plant at the left!

MOLY-GRO®

# New Soybean Seed Treatment can return up to $10 for every dollar invested

Get "Moly-Gro"—the new seed treatment that adds the essential growth element, molybdenum, to soybeans. Many farmers in this area who tested "Moly-Gro" last year found that treated acreage gave soybean yields averaging 10% higher. *At present prices, that's almost a $10 return for every dollar invested in "Moly-Gro".*

### THIS IS HOW "MOLY-GRO" WORKS

Molybdenum is generally not entirely available to soybean plants in acid soils. "Moly-Gro" contains molybdenum which plays a vital role in stimulating root nodule bacteria to fix atmospheric nitrogen and further to convert the nitrates to profitable protein. "Moly-Gro"-treated soybeans germinate well . . . are more vigorous . . . and produce higher yields.

### EASY TO USE, TOO

"Moly-Gro" is easy to use. It takes only a few minutes to apply and—because it's compatible with inoculant bacteria—you can treat your seeds at the same time you inoculate. A special adhesive in "Moly-Gro" binds it to the seeds so that it won't wear off during handling—it's right where it needs to be when the seeds germinate. Ask your dealer for new "Moly-Gro" now—or have him treat your seed for you. And remember: *"Moly-Gro" costs as little as 35¢ an acre.*

## CLIMAX MOLYBDENUM COMPANY

A division of American Metal Climax, Inc.

**1270 Avenue of the Americas, New York 20, N. Y.**

# Some Views of Transportation Problems

**By H. N. JOHNSON**

**General Traffic Manager, Ralston Purina Co. From a speech before University of Illinois Agricultural Industries Forum**

TODAY'S CUSTOMER is a wide-awake, aggressive businessman. He is interested in the lowest delivered cost of feed at the ultimate destination, which is the farm. He doesn't care if this lowest delivered cost is achieved by using rail, barge, truck, or helicopter, and he buys accordingly.

My own observation is that a water location is becoming less important each day as the railroads have come to recognize the threat of water competition, and as they publish rail rates that fully meet the competition of truck-barge-truck rates.

Recent examples of this method of rate making are the overhead through rates on soybean meal from Western Trunk Line territory into the Southeast.

If we are going to be practical businessmen, I think we must concede that a strong network of railroads is essential to our industries, and we *know* that in times of national emergency we have a lost cause without them. There just are not enough trucks, planes, and barges to handle the movements of troops and supplies in the numbers and quantities needed.

The railroads were in financial trouble back in 1956 so they decided that they needed higher rates. In March 1956 they were granted an ex-parte general increase, 196. When they raised their prices, they made it that much easier for competing modes of transportation and they lost that much more revenue.

They needed more, not less, money so they decided that the way to get more money was to raise the price of their services again, so in December 1956 we had another ex-parte increase, 206. We also had X-206-A and then because they lost more business and more revenue they decided that another increase was what they needed so they raised their rates again, and we had X-212.

Finally, some railroad executives decided that something was wrong, so they appointed research committees to study the situation. These committees called on shippers and receivers all up and down their line (they called on us), and they found out that besides spotty service and poor equipment, their rates were too high. I'm not being facetious. This is what actually happened.

The railroads have been studying rates and they have taken action in many cases. I am sure you know that rates on soybean meal and grain have been drastically reduced in almost all parts of the country, except in the East, and the railroads have been able to recapture much of this business. In many cases it has meant cutting their "normal" rates in half.

The final measuring stick of whether or not a rail rate is too high is whether or not an industry can get it done cheaper by someone else or can do it cheaper itself.

Our transportation bill last year was right at $44 million so you can be sure that our executives want to know that we are spending only what is absolutely necessary on this facet of our business.

## Entire Grain Rate Structure Before ICC

**By RICHARD M. FREEMAN**

**Belnap, Spencer, Hardy & Freeman, Chicago, Ill. From speech before University of Illinois Agricultural Industries Forum.**

FROM 1935 TO 1958 the rail share of total grain movements to Chicago declined in varying degrees. Soybeans declined from almost 100% to 33%.

More recently the railroads have sought to regain business by reducing the rail rates over routes that parallel the barge movement.

The entire grain rate structure via rail and via barge-rail to the South is before the Interstate Commerce Commission in two separate proceedings. The structure of rail rates to the East is under review by the eastern and western railroads, and as an initial result of that review, these railroads are seeking substantial reductions in the local rates from Illinois, Wisconsin and Iowa into Chicago for application to the East to meet barge competition on the Illinois River. The traffic officials of every segment of the grain industry—farmers through their cooperative associations, merchandisers, processors, and to some extent even the consumers of grain and grain products—are not only following these cases but in many instances participating in them and presenting testimony.

The first major railroad reaction to the dramatic increase in barge traffic came when the New York Central reduced its corn rate on the Kankakee Belt, a line extending west from Kankakee, Ill., about 80 miles, from 23½¢ to 5¢, an amount roughly equal to the barge rate to Chicago. The 5¢ rate has been very effective in attracting traffic away from the Illinois Waterway.

About a year ago, the balance of the railroads serving Illinois, southern Wisconsin, and Iowa applied to the Interstate Commerce Commission for permission to reduce the effective rate to Chicago from 18½¢ to 12¢ on grain that is reshipped east. Whether the New York Central and the other railroads should be permitted to make these reductions on a permanent basis is now before the Interstate Commerce Commission.

The economic goal is always to narrow the costs between the production and the consumption of grain by accommodating the market structure to the lowest cost form of transportation.

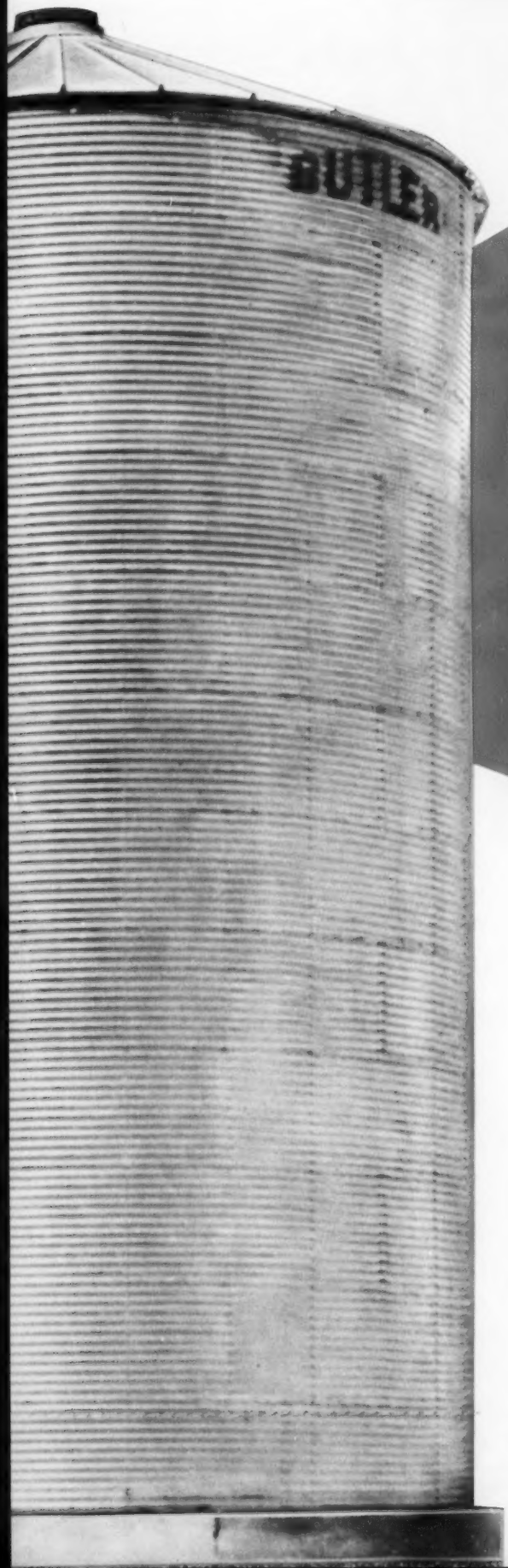
## Can Expect Further Disruption of Rates

FURTHER DISRUPTION of railroad grain transportation pricing practices, historically a stabilizing factor in the grain trade, can be expected as long as government regulatory inequities between different forms of transportation prevail, Clair M. Roddewig, Chicago, president of the Association of Western Railways, said recently in Kansas City, Mo. He spoke at the director's dinner of the Grain & Feed Dealers National Association.

"When we find our business going to competitors at a lower rate we must meet that competition if we are to stay in business, regardless of the impact it may have on market relationships," Mr. Roddewig said.

Transportation of grain by motor carriers and inland waterway barges is not subject to any type of economic regulation by the government, he asserted. This is the underlying cause of the tremendous shift that has and is taking place in the pattern of grain transportation, he said.

"The grain trade is a part of the changing transportation picture and I see no way in which it can avoid the impact that is being produced. I know that it creates a situation far removed from the orderly rate and market relationship pattern that the grain trade once knew."

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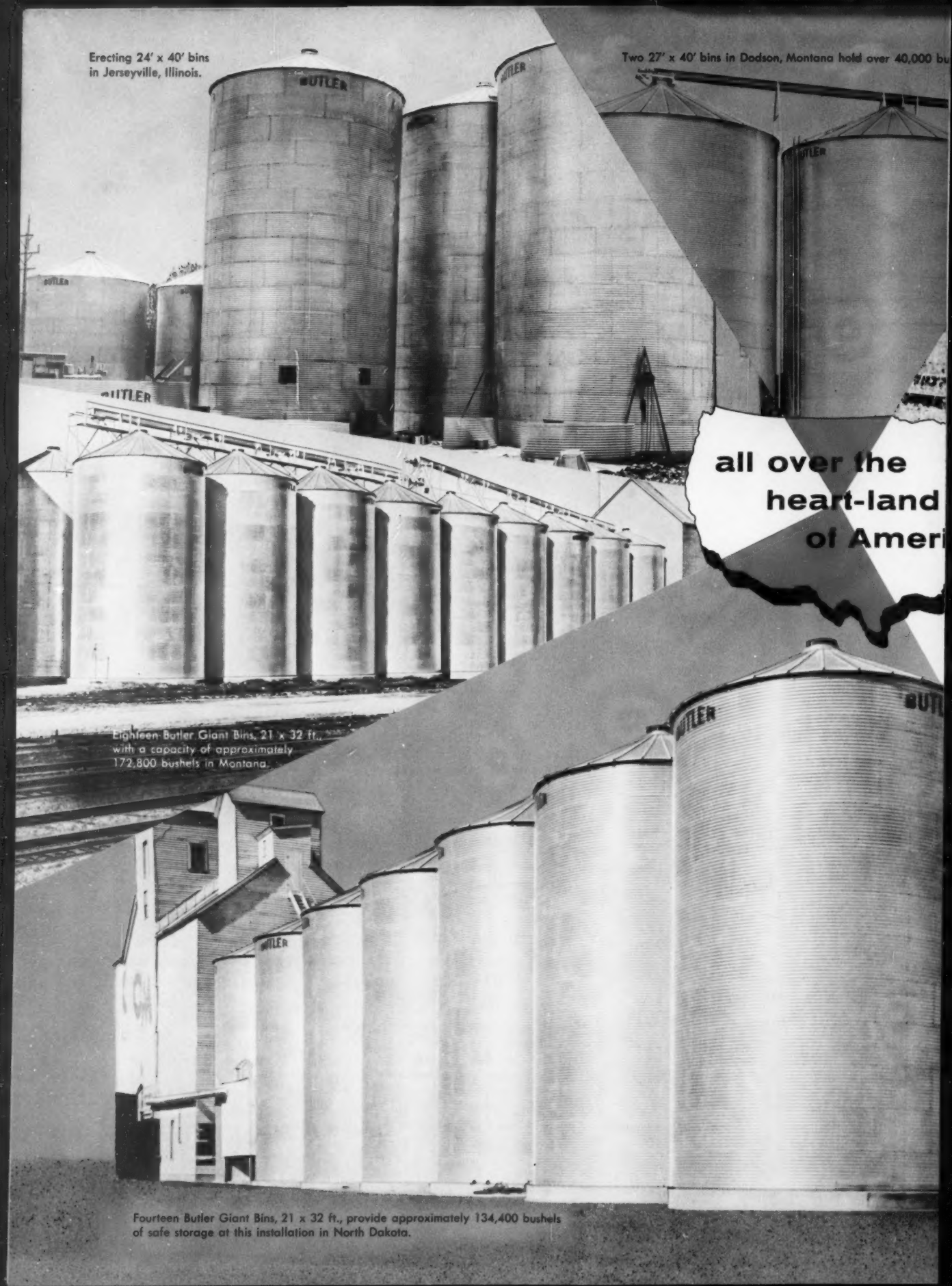
## Safe storage fast at low cost, with handling ease

Butler Bins give you big volume safe storage at a cost-per-bushel no other bin storage can better. They can be erected in just days, providing up to 36,000 bushels of weather-tight, fire-safe storage per Giant Bin.

But these important storage features do not tell the whole story. Butler Giant Bins make it easy to segregate, grade and store grain. Automatic handling equipment can be installed on all models to reduce operating costs and assure efficient turning of grain as needed.

There's proof in acceptance. What do others in your business think of Butler Giant Bins? You'll see a few examples inside!


Erecting 24' x 40' bins
in Jerseyville, Illinois.
Two 27' x 40' bins in Dodson, Montana hold over 40,000 bu
all over the
heart-land
of Ameri
Eighteen Butler Giant Bins, 21 x 32 ft.,
with a capacity of approximately
172,800 bushels in Montana.
Fourteen Butler Giant Bins, 21 x 32 ft., provide approximately 134,400 bushels
of safe storage at this installation in North Dakota.

Eight 24′ x 24′ Butler Giant Bins store nearly 80,000 bushels of grain in Missouri.

# BUTLER GIANT BINS

## handle big volume of grain at low cost

From the Red River Valley of the North to the flatlands of the Gulf Coasts, from the high West Texas plains to Indiana's level corn fields . . . you'll see them rising. New Butler Giant Bins . . . singles, in pairs or in dozens . . . entrusted with a flood of golden grain . . . chosen by grain storage men *in business to make a profit*. Here are some of the reasons why these installations are *Butler* Giant Bins . . .

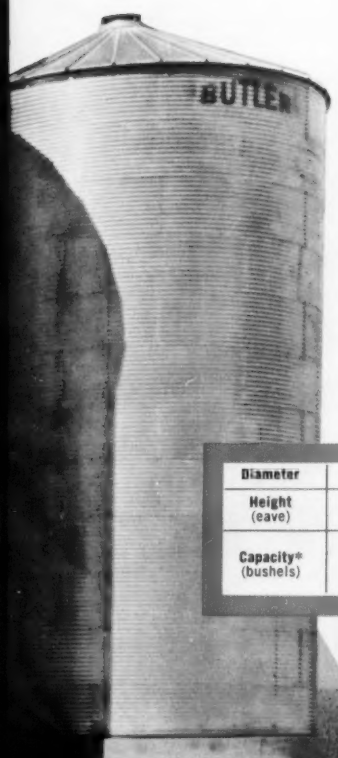
**BIG VOLUME STORAGE**. . . models up to 36 feet in diameter, as high as 40 feet at the eave. The biggest Butler Giant Bin holds over 36,000 bushels!

**LOWEST-COST, SAFE STORAGE** . . . grain is stored safe from weather, insects and rodents—at an extremely low cost per bushel.

**EASY TO MAINTAIN** . . . aeration, fumigation and cleaning are all relatively simple in a Butler Giant Bin. Automatic handling equipment can be installed on all sizes.

**WIDE RANGE OF SIZES**. . . lets owners tailor storage to fit specific needs, makes it easy to segregate, condition and store various types and grades of grain.

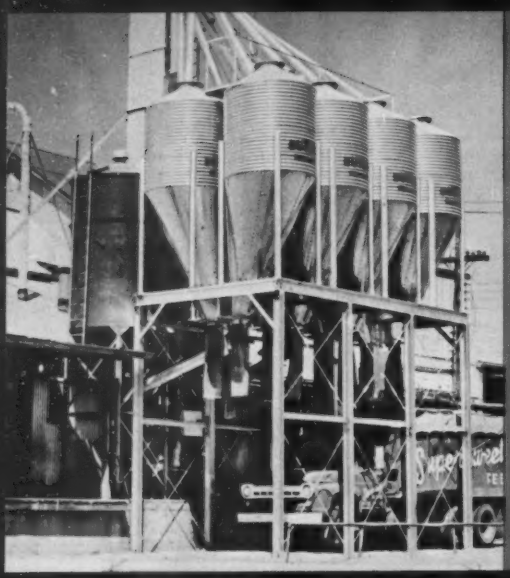
**BETTER BUTLER CONSTRUCTION**. . . designed and built of heavy galvanized steel for safest storage, longest life.

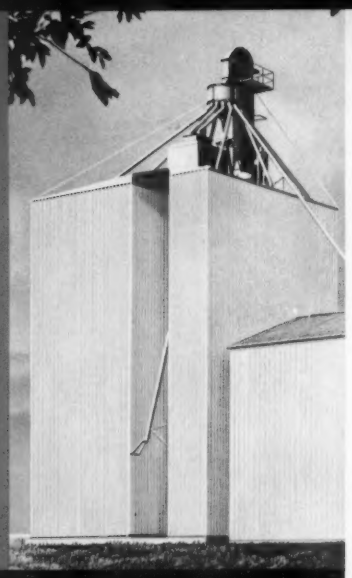



| Diameter | 18 | 21 | 21 | 24 | 24 | 24 | 24 | 24 | 24 | 27 | 27 | 27 | 36 | 36 | 36 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Height (eave) | 16′ | 18′8″ | 32′ | 18′ | 18′8″ | 21′4″ | 24′ | 32′ | 40′ | 24′ | 32′ | 40′ | 24′ | 32′ | 40′ |
| Capacity* (bushels) | 3,500 | 5,700 | 9,600 | 6,700 | 7,700 | 8,700 | 9,700 | 12,700 | 15,700 | 12,500 | 16,300 | 20,100 | 22,700 | 29,600 | 36,400 |

*Maximum capacity is determined by adding grain compaction factor, based on 60 lbs. wheat or beans to cubic measure, and filling under roof above eave. Compaction factor will vary by the test weight, type of grain and depth of grain stored.

## Buildings, bins, bulk or bolted tanks...





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Bring your problems to Butler, the company that provides more safe storage for more bushels of grain and tons of feed than any other manufacturer . . . the company that knows grain and feed storage best.

There's a Butler storage expert near you who is an expert in planning and building both flat and vertical structures. He knows the special problems of construction in your area – including local materials availability, soil conditions, and other factors that influence storage construction.

He's prepared to handle the whole job – from planning to completion. He's a respected, established businessman.

You can depend on him year after year for future service.

Get him on the job in the planning stages where his experience and specialized knowledge can help you the most.

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SOYBEAN COUNCIL OF AMERICA, INC.

# Italian Market Shows Great Growth

By HENRY M. YOUNG

THE ITALIAN market for U. S. soybean products is growing by leaps and bounds and shows no sign of slowing down.

The Soybean Council of America began its promotion campaign in Italy in the fall of 1957 and that year recorded imports of 858 metric tons of soybeans. The 1959 figure, for the first 10 months, reached 47,000 metric tons—20,000 metric tons over the 1958 imports.

The growing demand for U. S. soybeans and soybean meal in Italy is steadily rising in spite of strong campaigns by other competitive sources — mainly Russia and Communist China.

Dominic J. Marcello, Soybean Council representative in Rome, said that a great deal of the success of soybean sales in Italy is due to the Council's participation, with the U. S. Department of Agriculture, in agricultural trade fairs and seminars throughout Italy.

He stated that the Council has participated in a number of Italian fairs and seminars, attended by over 2 million people.

He said, "The role of the soybean as a precious storehouse of proteins in balanced feeding rations for dairy cattle is our main theme at the 62nd Verona International Agricultural Trade Fair."

The Council's soybean story was a part of the U. S. Department of Agriculture's exhibit at the fair, held Mar. 13-23. The theme of the Department's exhibit this year was: "Better breeding, feeding, management and sanitary care of milk—means more profitable dairying."

The overall object of the exhibit was to get the Italian farmer to "buy American feed ingredients and breeding stock."

The soybean story as well as the general theme of the U. S. Department of Agriculture's exhibit fit in nicely with the Italian government's plans to shift from the production of soft wheat to forage and feed crops and to expand her livestock and poultry production.

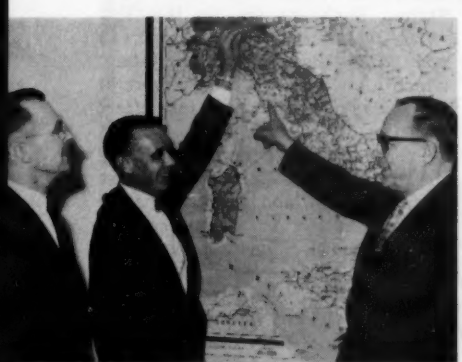
But, animal feeding does not represent the only or largest possible market for soybeans in Italy.

Its high protein and special oil qualities, plus its great nutritional value as a source of minerals and vitamins, offer great possibilities in relation to the Italian diet.

The trend in Italy at present is toward an increase of the processing of soybeans with facilities available locally.

By the end of last year, there were at least 18 important plants in Italy either processing soybeans for oil and meal or planning to do so. In 1957, there were practically no plants processing soybeans in Italy.

A great many of the farmers attending the Fair were attracted to the U. S. Department of Agriculture's exhibits on balanced feeding and felt the impact of the soybean story.



**THREE U. S. specialists who attended the Verona Agricultural and Livestock Fair Mar. 13-21 in the Italian office of the Soybean Council. Left to right: Garold Parks, associate professor in animal husbandry, Iowa State University; Koy Neeley, dairy nutritionist, Texas Technological College; and Don E. Edison, executive secretary, Farmers Grain Dealers Association of Iowa. Mr. Edison was in charge of the Council's exhibit of soybeans and soybean products at the Fair.**

## Establish Council Area Office in Bombay, India

AN AREA office of the Soybean Council will be established in Bombay, India, and will be activated within the next 2 months, Howard L. Roach, Council president, announced from Bombay in March.

The new office will serve Burma, India, Iran, Malaya, Pakistan, Singapore, Thailand, and Hong Kong. It is a first result of the recently signed pact between the Council and Foreign Agricultural Service, U. S. Department of Agriculture, for a joint world marketing program for soybeans and soybean products.

**PROMOTIONAL leaflets for U. S. soybeans, soybean oil and meal, have been designed by FAS and are available in six languages: English, German, Dutch, French, Spanish and Italian. Three different leaflets were prepared for distribution at trade fair exhibits around the world. The Dutch leaflet is shown above.**

F. H. Nallaseth has been named area director, with headquarters at Bombay. He has had 17 years' experience in government work in India and has been connected with various commercial and industrial enterprises for 15 years.

President Roach, Volorus H. Hougen, chief of the foreign marketing branch, FAS, and Fred R. Marti, Council area director, visited a large number of countries in the Middle East and Europe in February, March and early April in connection with the FAS-Council global agreement. Countries visited included Egypt, Israel, Lebanon, Pakistan, Iran, Turkey, Greece, Italy, Germany, Belgium, France, England, Holland, Ireland, Sweden, Denmark, and Poland.

Mr. Nallaseth will direct activities in the Middle and Far East which will include market surveys, collection of data on foreign trade restrictions, studies of foreign food habits and nutritional needs, aid to foreign buyers in learning more about quality and availability of U. S. soybeans and products, and technical aid in soybean processing and soybean oil refining.

SOYBEAN COUNCIL OF AMERICA, INC.

**OIL TALK. Howard L. Roach, president of the Soybean Council of America, discusses soybean oil and other soya products with Pinchas Sapir, left, Minister of Commerce and Industry, Israel, as part of his trip to the Mid East and Far East in connection with a recently signed pact between the Council and the FAS for a joint world marketing program of soybeans and soybean products. Volorus H. Hougen, chief of the Foreign Marketing Branch, Foreign Agricultural Service, USDA, is accompanying him on the journey.**

**HEAD of Bombay Council office, F. H. Nallaseth (left), with Dr. Fred R. Marti, European Council director.**

JAPANESE-AMERICAN SOYBEAN INSTITUTE

# Free Imports Go into Effect Oct. 1

**By DAVID R. FARLOW**
**Assistant to the Executive Vice President, American Soybean Association**

THIS ARTICLE is being written in the office of the Japanese American Soybean Institute in Tokyo, Japan.

I arrived in Tokyo on Mar. 6, and the purpose of my trip was to work with Mr. Hayashi, the managing director of JASI, on plans for the further promotion of U. S. soybeans in Japan, and the problems that have arisen.

As I'm sure our readers are aware by this time, Japan is the No. 1 customer for U. S. soybeans. Last year the United States exported a total of about 110 million bushels of soybeans with about 37 million of these being imported by Japan. This represents over 33% of our total export business. This is the main reason for the American Soybean Association's active interest in this market.

In 1956 the American Soybean Association established a market development project in Japan under the auspices of the Foreign Agricultural Service. This gave birth to the Japanese American Soybean Institute under the capable management of Mr. Hayashi. The JASI is composed of the five leading soybean user organizations in Japan, i.e., the Japan Soy Sauce Brewers' Association, the All Japan Miso Industry Association, the Japan Tofu Association, the Oil and Fat Manufacturers (Crushers) Association, and the Oil and Fat Importers Exporters Association. These five organizations plus the ASA make up the JASI.

Since 1956 the JASI has engaged in many and varied programs to first, increase the consumption of soybeans and soybean products in Japan, and second, to show the advantage of using U.S. soybeans.

We have done this by working with our member organizations in the promotion of the consumption of their products. We have worked with the Japan Nutrition Association in promoting the consumption of more protein and oil from soybeans for a more balanced diet and better health. We work with the Prefecture (state) health centers to teach the Japanese housewives the value of soybean foods for the health of their family, and many other programs too numerous to mention.

What has this accomplished? you ask. . . . I'll let you judge. In 1956 we exported about 20 million bushels of soybeans to Japan as I stated before; last year we exported almost 40 million bushels.

The Japanese have used the soybean as a food for thousands of years, but never before has it become so popular. Everywhere you go in Japan today, people are aware of and interested in the value that the soybean brings to them in the way of a more balanced diet and better health. The Japanese American Soybean Institute has been to soybeans in Japan what Jack Armstrong was to Wheaties in America.

There are many problems that are still facing us today. Most of these have been reported to you through these pages in the past; some of these have been solved, others are still pending.

We are positive that we have created a demand in Japan for more soybeans and soybean foods, but due to the Japanese government-controlled allocation of dollars with which to buy these soybeans, the Japanese importers and users can buy no more than they are already buying, regardless of demands.

Last fall the United States requested that the Japanese allow free imports on 10 items from the United States. Soybeans are on this list.

The Japanese government plans to put the automatic allocation system, which allows for the free import of soybeans and other items, into effect next Oct. 1.

Preparations are being made by the trade in Japan for the institution of this system, and negotiations for its implementation are proceeding between the U. S. and Japanese governments.

We are now at the point in our promotion work where we have created a demand that exceeds the supply. Free import of U. S. soybeans into Japan should make it possible to supply that demand.

## Shattering a Main Arizona Problem

ABOUT 2,000 acres of soybeans were grown in Arizona in 1959, according to Ray Seltzer, head of the agricultural economics department, University of Arizona.

Shattering of the beans at harvest has been one of the principal problems in Arizona.

ON ALL CHEMICALS, READ DIRECTIONS AND CAUTIONS BEFORE USE

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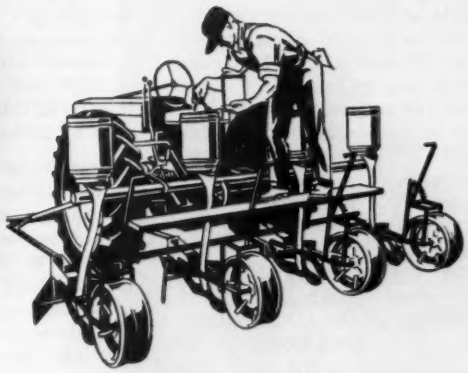

# "ON-THE-FARM" SEED TREATMENT FOR SOYBEANS

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# USDA Sees 6% Rise in Soybean Acres

GROWERS' INTENTIONS as of Mar. 1 point to 24.7 million acres of soybeans to be planted alone for all purposes. This would be the second highest acreage of record, 6% above last year and only slightly below the peak of 25 million acres planted in 1958. The 10-year average is 18.1 million acres.

Increases over last year are indicated for all producing areas with only a few states reporting slight decreases in acreage. The North Central area, which has nearly three-fourths of the U. S. acreage, expects a 5% increase from 1959. Of the major states in the area, only Minnesota expects no change from last year while increases of from 4% to 10% are expected in Illinois, Indiana, Ohio, Iowa, and Missouri.

The South Atlantic States report the sharpest percentage increase of any of the producing areas. Much of this gain comes in South Carolina, Delaware, Maryland, and North Carolina where increases range from 12% to 20%. All producing states in the South Central area indicate higher acreages than last year with the area up 8%. Arkansas, the heaviest producer in the area, continues to expand acreage with an increase of 10% over last year. That state now ranks third in acreage, exceeded only by Illinois and Iowa.

Growers on Mar. 1 do not report on the acreage of soybeans intended for harvest as beans and no forecast of such acreage or of production is made at this time. However, if growers plant their intended acreage of soybeans alone for all purposes and about the same proportion of the total acreage is harvested for beans as last year, 23.8 million acres would be utilized for this purpose. This compares with 22.4 million acres harvested for beans in 1959.

Applying the 1955-59 average yield per acre, by states, to the computed acreage for beans would indicate a production of 539 million bushels. This would be about the same as the 1959 production of 538 million bushels but about 7% less than the record 1958 production.

**PLANTED AND HARVESTED ACREAGE OF SOYBEANS, 1944-1960**

(1,000 acres)

| | Grown alone | Harvested for beans |
|---|---|---|
| 1944 | 13,118 | 10,245 |
| 1945 | 13,056 | 10,740 |
| 1946 | 11,706 | 9,932 |
| 1947 | 13,052 | 11,411 |
| 1948 | 11,987 | 10,682 |
| 1949 | 11,872 | 10,482 |
| 1950 | 15,048 | 13,807 |
| 1951 | 15,176 | 13,615 |
| 1952 | 15,958 | 14,435 |
| 1953 | 16,394 | 14,829 |
| 1954 | 18,541 | 17,047 |
| 1955 | 19,658 | 18,620 |
| 1956 | 21,671 | 20,642 |
| 1957 | 21,912 | 20,826 |
| 1958 | 25,037 | 23,900 |
| 1959 | 23,178 | 22,428 |
| 1960 | 24,667 | ..... |

Crop reporting board, AMS, USDA

**SOYBEAN CROP PRODUCTION March, 1960**

| | Acreage planted[1] | | | |
|---|---|---|---|---|
| | Average 1949-58 | 1959 | Indicated 1960 | 1960 as percent of 1959 |
| | 1,000 acres | | | Percent |
| N.Y. | 8 | 5 | 5 | 100 |
| N.J. | 43 | 48 | 48 | 100 |
| Pa. | 49 | 41 | 42 | 102 |
| Ohio | 1,188 | 1,490 | 1,609 | 108 |
| Ind. | 1,970 | 2,340 | 2,480 | 106 |
| Ill. | 4,268 | 4,769 | 4,960 | 104 |
| Mich. | 158 | 232 | 267 | 115 |
| Wis. | 82 | 102 | 98 | 96 |
| Minn. | 1,849 | 2,222 | 2,222 | 100 |
| Iowa | 2,115 | 2,409 | 2,650 | 110 |
| Mo. | 1,731 | 2,340 | 2,527 | 108 |
| N. Dak. | 95 | 244 | 239 | 98 |
| S. Dak. | 147 | 144 | 137 | 95 |
| Nebr. | 124 | 155 | 155 | 100 |
| Kans. | 436 | 447 | 465 | 104 |
| Del. | 103 | 158 | 182 | 115 |
| Md. | 148 | 220 | 264 | 120 |
| Va. | 240 | 309 | 321 | 104 |
| W. Va. | 10 | 7 | 7 | 100 |
| N.C. | 435 | 481 | 577 | 120 |
| S.C. | 206 | 389 | 436 | 112 |
| Ga. | 94 | 106 | 105 | 99 |
| Fla. | 27 | 48 | 45 | 94 |
| Ky. | 209 | 207 | 217 | 105 |
| Tenn. | 312 | 384 | 407 | 106 |
| Ala. | 150 | 174 | 179 | 103 |
| Miss. | 625 | 976 | 996 | 102 |
| Ark. | 1,094 | 2,369 | 2,606 | 110 |
| La. | 128 | 185 | 191 | 103 |
| Okla. | 68 | 88 | 132 | 150 |
| Texas | 16 | 89 | 98 | 110 |
| U.S. | 18,127 | 23,178 | 24,667 | 106.4 |

[1] Grown alone for all purposes. Crop reporting board, AMS, USDA


INOCULATE SOY BEANS

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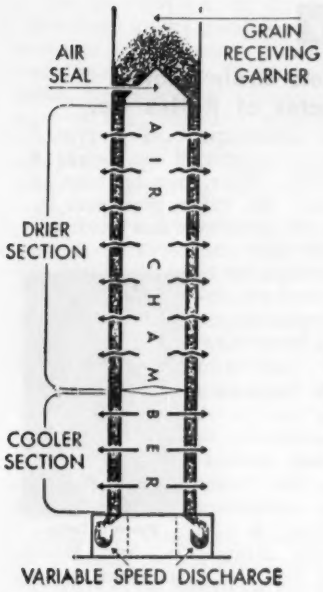
Urbana, Illinois


## Spain Plans Modern Processing Plant

PLANS FOR a modern soybean processing plant near Tarragona, Spain, are now in the blueprint stage, according to unofficial reports from that country.

A Spanish firm, with assistance from a U. S. firm, is making plans for erection of a plant designed to handle soybeans and other oilseeds.

Spain recently purchased 1,500 tons of whole soybeans from the United States for crushing tests to determine whether Spanish plants now in existence can handle the commodity successfully.

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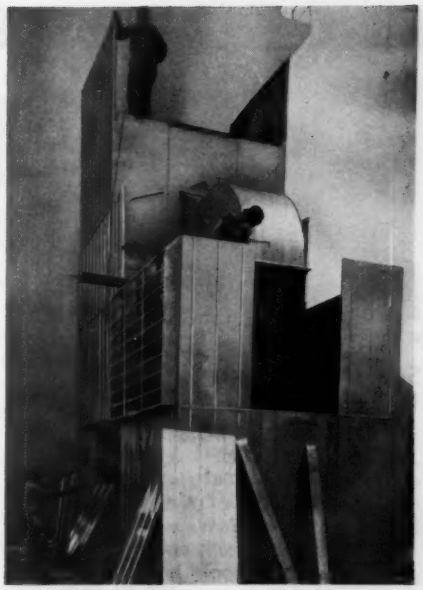

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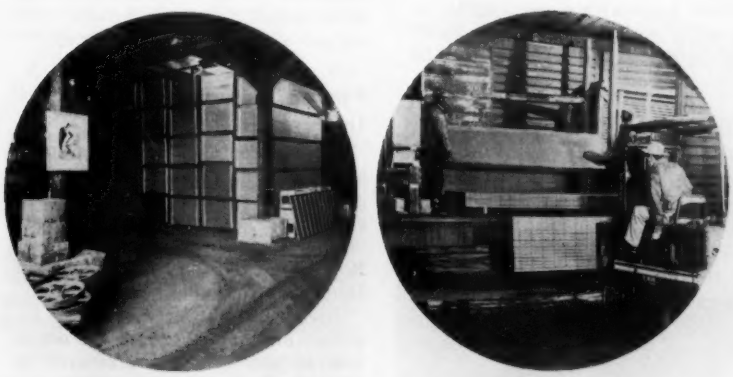

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# GRITS and FLAKES . . . *from the World of Soy*

G. Raymond McCalla

Max E. Wells

## Some Changes Made By Memphis Firm

G. Raymond McCalla, president of J. E. Dilworth Co. for 4 years, is the new president of **Industrial Supplies,** Memphis. R. D. Van Dyke, Jr., after 29 years with the firm, has retired.

Industrial Supplies is one of Memphis' oldest mill supply houses, and the retiring Van Dyke is known throughout the milling industry in the Midsouth.

Max E. Wells, who has been with Dilworth for 22 years, and was vice president for sales, is now executive vice president of Industrial Supplies. Both McCalla and Wells have a financial interest in the company.

Palmer Brown, partner in L. P. Brown Co., remains chairman of the board of Industrial Supplies.

Other officers are John R. Rother, vice president and sales; Fletcher B. Perry, vice president; and Ellis Thorn, secretary-treasurer. All three served in executive capacities under Van Dyke.

Mr. McCalla announces that the mill supply house plans an extensive expansion program.

## Dannen Mills Observes Its 25th Anniversary

**Dannen Mills,** St. Joseph, Mo., observes the 25th anniversary of its entrance into the feed manufacturing and milling business.

Reviewing the history of the company, Dwight L. Dannen, president, noted the firm was founded in 1925 by his father, the late H. L. Dannen, as a grain and hay commission business. In 1935, the company entered the feed business, building its first feed mill. That facility, which employed 13 men, had a daily production capacity of 25 tons.

Today the firm employs more than 400 persons in St. Joseph alone and its push-button feed mill there has an 8-hour production capacity of 200 tons.

In 1938, Mr. Dannen recalled, the company, which had done a great deal of pioneer work in introducing soybean oil meal to farmers and feeders, built its first soybean mill. That plant, of the Expeller type, could process 600 bushels per day. Today the company's solvent type plant has a daily capacity of 6,000 bushels.

## Finance Drive Planned For St. Cloud Plant

Renewed effort to develop financing for the proposed soybean processing plant west of St. Cloud, Minn., has been started, M. G. Wells, general manager of **Central Minnesota Processors, Inc.,** has announced.

M. G. Wells

The firm has retained James P. Penn, Minneapolis, former brokerage firm executive, to aid its general manager and directors in obtaining necessary funds to start construction of the $550,000 project.

Plans announced last fall called for the purchase of the 6-acre Liberty Granite Co. site 3 miles west of St. Cloud and the development of present buildings with additions into an 80-ton-per-day soybean extraction plant. Options have been taken on that property and nearby land, officials said.

Present plans call for a plant with a processing capacity of nearly 3,000 bushels daily with a yearly total of almost 1 million bushels. Soybean meal produced by the plant will be sold locally.

## Golden to Manage Purina Oil Sales

Winfred L. Golden, manager of the **Ralston Purina** soybean plant at Louisville, Ky., has been transferred to Purina headquarters at St. Louis as manager of vegetable oil sales, D. B. Walker, director of the soybean division, announces.

Winfred L. Golden

Mr. Golden joined Ralston Purina Co. in 1956 as assistant buyer at the Circleville, Ohio, mill. He was appointed manager of the Louisville soybean plant in December 1958.

The transfer became effective Mar. 15.

## Illinois Grain Man a Director of Rolfes Co.

The appointment of Purvis F. Tabor as director of the **George A. Rolfes Co.,** Boone, Iowa, has been announced. Mr. Tabor, prominent Decatur, Ill., grain man and investment banker, will also serve in an advisory capacity to the firm's subsidiary organizations, Rolfes Grain Aeration Cos. and Rolfes Electronics Corp.

Purvis F. Tabor

In addition to this new appointment, Mr. Tabor serves as president of Tabor & Co., Sullivan Grain Co., and Macon Grain Co. He is chairman of the board of High State Bank and a director of Honeggers & Co., Lewie David Co., and the Midstates Broadcasting Co.

## Kantor Named Research Director by Honeymead

The appointment of Max Kantor as vice president and director of research has been announced by **Honeymead Products Co.,** Mankato, Minn.

Mr. Kantor's previous connections include director of research, Archer-Daniels-Midland Co.; vice president Falk & Co.; and technical director, vegetable oil division, Cargill, Inc. Most recently he was a private consultant to the chemical industry.

## Purina Buys Interest In French Feed Firm

**The Ralston Purina Co.** has purchased one-half interest in the Duquesne Co. of France, it has been announced jointly by the presidents of the two companies, Raymond E. Rowland of Ralston Purina and Jean Duquesne of Duquesne.

The stock transaction brings together in a joint venture the oldest and largest feed manufacturer of France and the largest of the United States.

Duane Putnam, Atchison, Kans., has been named manager of the newly created livestock feeding department of **Dannen Mills,** St. Joseph, Mo. He will be in charge of feeding operations at Yale, Okla., Milliken, Colo., and Timber Ridge Farm south of St. Joseph. He comes from the C-G-F Grain Co.

The promotion of Clyde W. Thompson to the position of sales manager in its eastern district has been announced by **McMillen Feed Mills.** Thompson, previously manager of hog feed sales with headquarters in Fort Wayne, Ind., will carry out his new responsibilities from the Harrisburg, Pa., plant.

Frick Co., Waynesboro, Pa., has been named exclusive distributor in the northeastern United States for the farm equipment products including tractors and combines of **Cockshutt Farm Equipment, Ltd.,** Brantford, Ontario, Canada.

Albert I. Gleason, manager of the **Ralston Purina Co.'s** soybean plant at Memphis, Tenn., will transfer to the Louisville, Ky., soybean plant as manager there. He joined Purina in June 1952.

Claude L. Welch, 51, manager of the products control department for **Ralston Purina Co.,** died unexpectedly in a St. Louis hospital Mar. 1 after becoming ill at work. He joined Purina in 1930 and played a key role in the development of the company's quality control program and its resulting reputation for quality. He was recognized throughout the industry as an authority on quality control techniques.

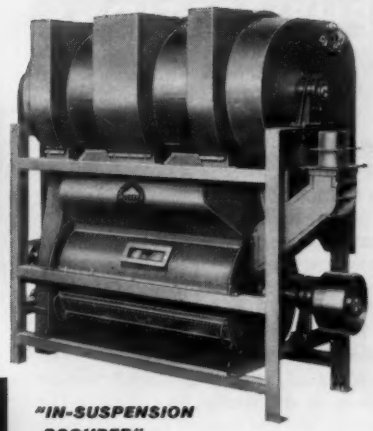
Richard H. Hoagland, manager of vegetable oil sales in the soybean division of **Ralston Purina Co.,** has been transferred to Chicago as assistant manager of the Checkerboard Grain Co. W. E. Casselman is manager. Mr. Hoagland joined Purina in February 1959, was formerly manager of the grain and soybean division of Sioux Industries, Sioux City.

J. A. McCarty Seed Co. has sold its Evansville, Ind., seed, feed, agricultural chemical, farm supply and wholesale operations to **Seedkem, Inc.,** a newly organized corporation to operate at the same location at 526 N.W. 4th St. George K. Black, with McCarty 14 years, is president and general manager. Richard W. Klipsch is secretary-treasurer and sales manager. W. Vernal Klipsch, Richard's father, is vice president.

New assistant branch managers have been named for **A. E. Staley Manufacturing Co.** offices in Cleveland and St. Louis. Named to the position in Cleveland was Alfred W. Brunlieb and for St. Louis, Donald M. Baldwin.

Harry L. Colwell, manager of the St. Louis Chow plant of **Ralston Purina Co.,** has announced his retirement effective May 1. He will be succeeded by R. E. Rowland, Jr., assistant plant manager.


EUREKA



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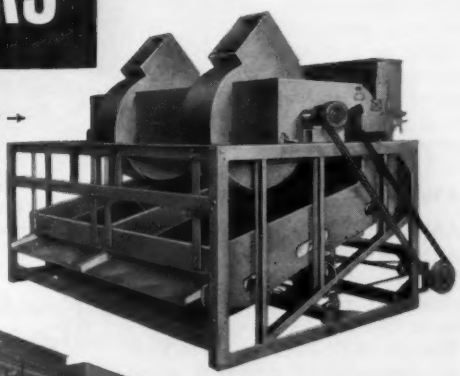

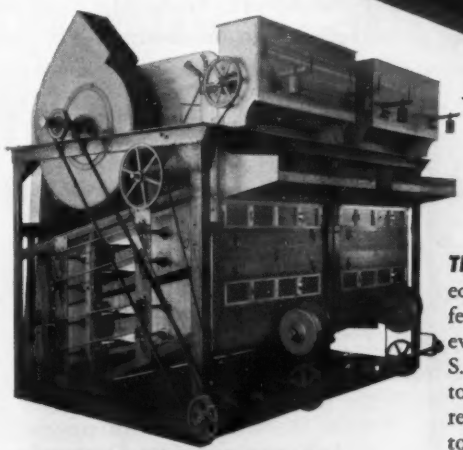

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## PUBLICATIONS

# Herbicides Tested on Narrow Rows

SOYBEANS GROWN in row widths narrower than the conventional 36 to 42 inches will on occasion produce higher yields than those in wider rows. Where such increases occur they are most likely to be found in the narrowest row widths, such as 10-inch and 7-inch widths.

But inability to control weeds often limits the use of narrow rows.

Arkansas studies have been undertaken in an attempt to correlate the early chemical control of weeds with the growth of the crop in narrow-width rows.

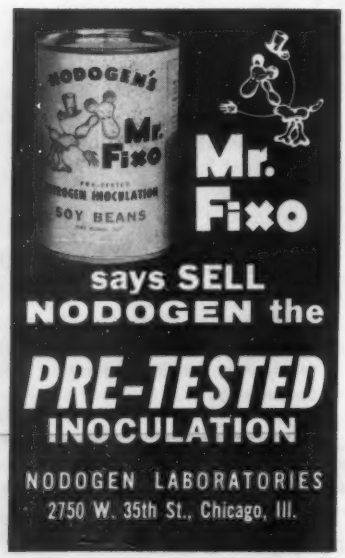
The results from the use of herbicides in the studies, and especially the use of pre-emergence herbicides, are variable. But the newer herbicides used, NPA, PCP, and CDAA, show sufficient promise to warrant further testing on narrow rows. Early post-emergence applications of the alkanolamine salt of DNBP look very promising.

*Effect on Soybean Yields of Herbicide and Narrow Row Width Combinations.* Report Series 84. By R. E. Frans. Agricultural Experiment Station, Fayetteville, Ark.

### Results of Herbicide Trials in Maryland

VARIOUS HERBICIDES were applied to soybeans, both pre-emergence and post-emergence, in Maryland in 1958 and 1959.

The use of DNBP resulted in good weed control and increased yields both years.




CDAA at 3 and 4 pounds per acre and NPA at 2 and 4 pounds per acre gave fair initial weed control but this control did not hold except in the case of CDAA granular in 1959.

Some new compounds are becoming available and they may have a place in soybean weed control. These include Amiben, DAC-893 and Zytron.

The use of EPTC resulted in very good weed control and highly significant increases in yield. The initial injury and some stand reduction did not carry through to the yield.

The use of granular herbicides gave the same results generally as their liquid counterparts. The exception was 2,4-D granular at 1 pound per acre which resulted in good weed control and a highly significant increase in yield. The benefits of granulars after the first cultivation are still problematical but should receive more investigation.

*Weed Control in Maryland Soybeans.* By John A. Meade and Paul W. Santelmann, Maryland Agricultural Experiment Station, College Park, Md. Proceedings of the Fourteenth Annual Meeting, Northeastern Weed Control Conference, Rutgers State University, New Brunswick, N. J.

### New Jersey Tests of Herbicides on Beans

TEN HERBICIDES were evaluated for pre-emergence weed control in soybeans in New Jersey tests.

DNBP both spray and granular, Amiben and DAC-893 provided very satisfactory control of both broadleaf and grass weeds with no reduction in stand or yield.

CIPC and Dow M1329 and EPTC gave good control of annual grasses but fair to poor control of broadleaf weeds.

*Progress Report on Herbicides for Weed Control in Corn and Soybeans.* By William F. Meggitt, Rutgers State University, New Brunswick, N. J. Proceedings of the Fourteenth Annual Meeting, Northeastern Weed Control Conference, Rutgers State University, New Brunswick, N. J.

### Results of Tests with Dinoben and Amiben

IT HAS BEEN found that 3-nitro-2,5-dichlorobenzoic acid (Dinoben) can be used for selective weed control in soybeans. The reduction of Dinoben to 3-amino-2,5-dichlorobenzoic acid (Amiben) produces an even more desirable herbicide for weed control in soybeans.

Amchem Products, Inc., the manufacturer of Amiben, has conducted tests to compare the response of soybeans to different substituted benzoic acids.

*The Response of Soybeans to Several Substituted Benzoic Acids.* By M. L. Sutherland, S. R. McLane, R. D. Hart and H. L. Ramen, Amchem Products, Inc., Ambler, Pa. Proceedings of the Fourteenth Annual Meeting, Northeastern Weed Control Conference, Rutgers University, New Brunswick, N. J.

## FEEDING

### Use of Processed Whole Soybeans for Broilers

UNEXTRACTED processed soybeans do not give as good performance in broiler feeding as does regular extracted soybean oil meal.

A third report from the University of Delaware confirms the results from two earlier experiments in that broilers receiving feed containing the unextracted soybeans failed to grow as rapidly or utilize their feed as efficiently as those receiving the control diet containing regular dehulled extracted soybean meal and stabilized feed grade fat.

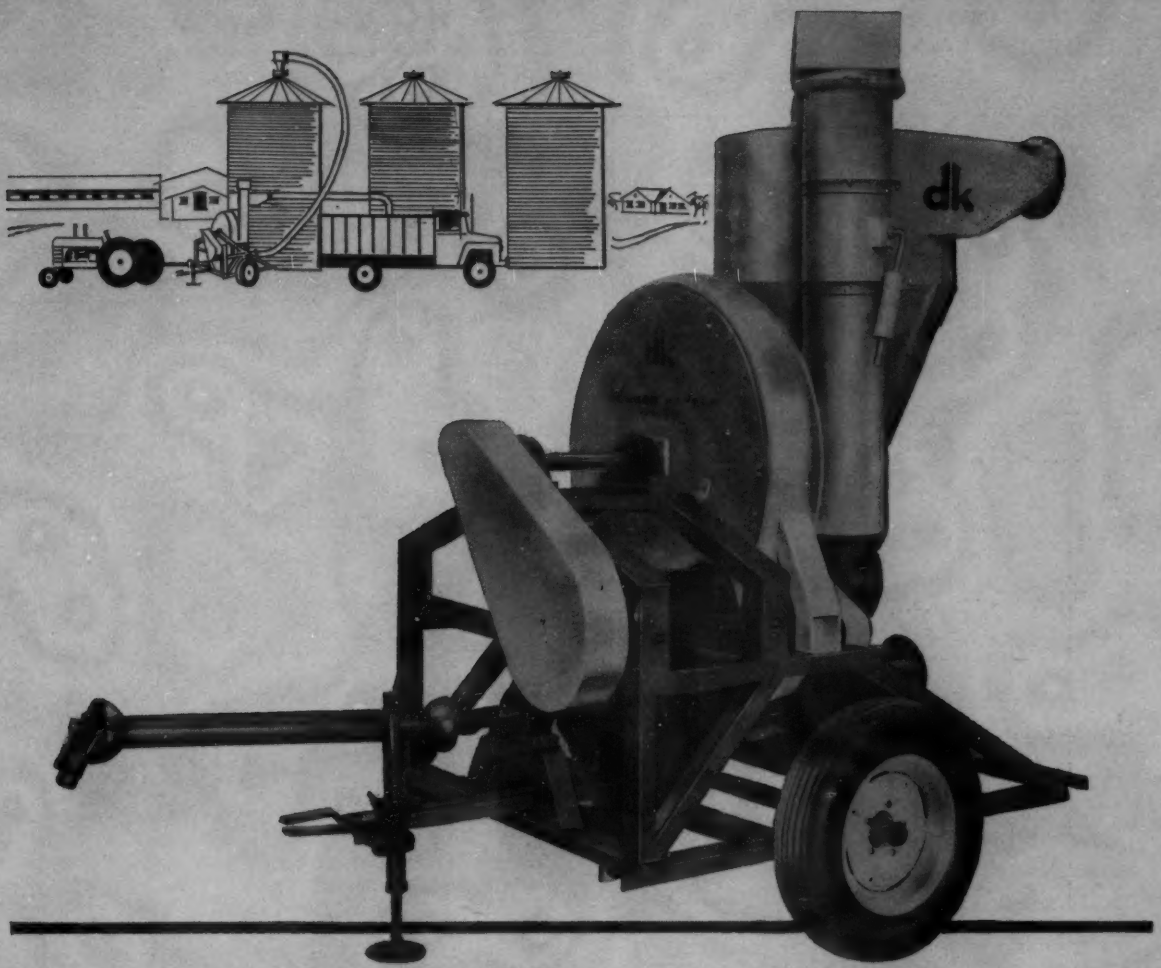
The difference appeared to be due to the protein quality or some factor other than the oil. The addition of lecithin, methionine or lysine failed to produce results equal to the extracted meal.

Extruding the beans under pressure produced a product that resulted in improved growth and feed utilization as compared with the raw flaked beans, but not equal to the extracted meal.

The feeding value of dehulled unextracted soybeans was better than the beans with the hulls, but the difference was small.

*Practical Broiler Diets Containing Processed Soybeans and Soybean Oil as Experimental Ingredients.* Poultry Nutrition Report No. 8. By T. D. Runnels, F. A. D'Armi, M. S. Cover, L. M. Greene, and J. F. Gordy. University of Delaware Agricultural Experiment Station, Newark, Del.

*Research on Protein in Swine Rations Reported in Minnesota.* By R. J. Meade, Feedstuffs, Oct. 15, 1959, pages 55-58. Box 67, Minneapolis 40, Minn.

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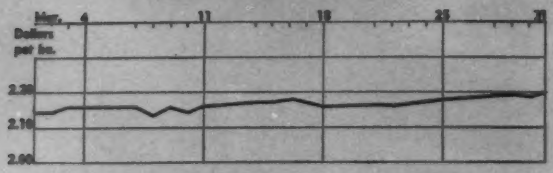
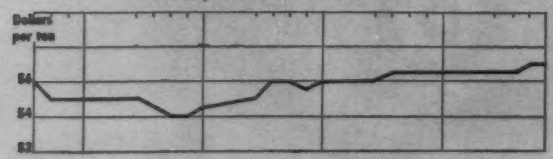
**DAILY MARKET PRICES**

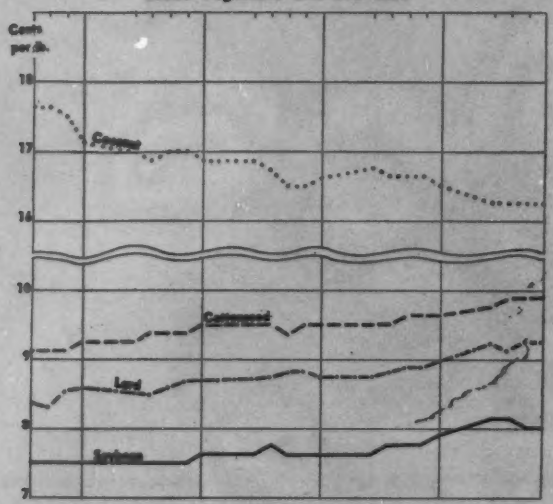
**No. 1 Cash Soybeans, Chicago**




**Bulk Soybean Oil Meal, Decatur**




**Crude Vegetable Oils and Lard**




# March Markets

SOYBEAN OIL and meal markets each made a little gain in March. Although meal hit the lowest level since September, the decline began in mid-January was arrested. And soybean oil leveled off, at least temporarily, from a decline that began with the crop year.

Market factors included:

1—Light processor operations, reported at 80% of capacity. February processing report was 30 million bushels—3 million under January and February a year ago.

2—Some improvement in the demand for commercial mixed feeds and for soybean meal.

3—Continued light country offerings of soybeans.

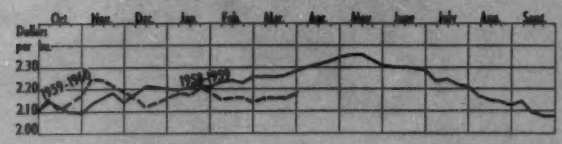
4—USDA reports of substantially heavier exports of

**1958 and 1959 SOYBEAN CROPS**

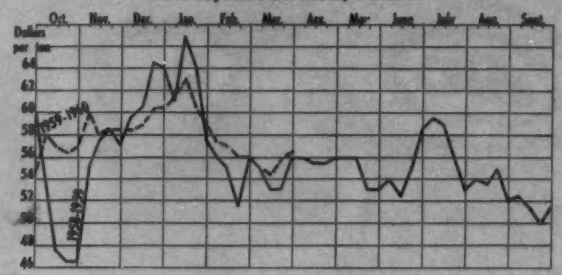
| | 1959 | 1958 |
|---|---|---|
| Total soybeans placed under price support through Feb. 29 | 52,301,000 bu. | 138,868,000 bu. |
| Total soybeans withdrawn from support as of Feb. 29 | 2,421,000 bu. | 3,034,000 bu. |
| Total 1958-crop soybeans under reseal Feb. 29 | 13,650,000 bu. | |
| Soybeans crushed Oct. 1-Feb. 29 | 169,740,000 bu. | 172,089,000 bu. |
| Soybeans exported Oct. 1-Feb. 29 | 68,904,000 bu. | 55,754,000 bu. |
| Balance on hand Mar. 1 for processing, export or carryover | 330,641,000 bu. | 344,953,000 bu. |
| Total soybeans inspected for overseas export plus lake shipments to Canada Oct. 1-Mar. 25 | 73,139,814 bu. | 59,818,952 bu. |

**TRENDS AT A GLANCE (Weekly Close)**

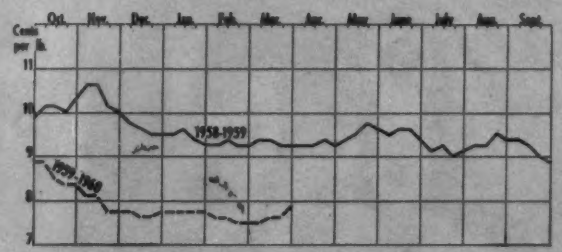
**No. 1 Cash Soybeans, Chicago**




**Bulk Soybean Oil Meal, Decatur**




**Crude Soybean Oil, Tankcars**




soybeans and fats and oils to date as compared with last year, and of better than expected vegetable oil consumption in January. There was a pickup in export activity the latter part of March.

5—The prospective boost of 6% in planted soybean acres.

6—USDA's announcement that it will continue to sell its soybean stocks at 20¢ over support price through next September.

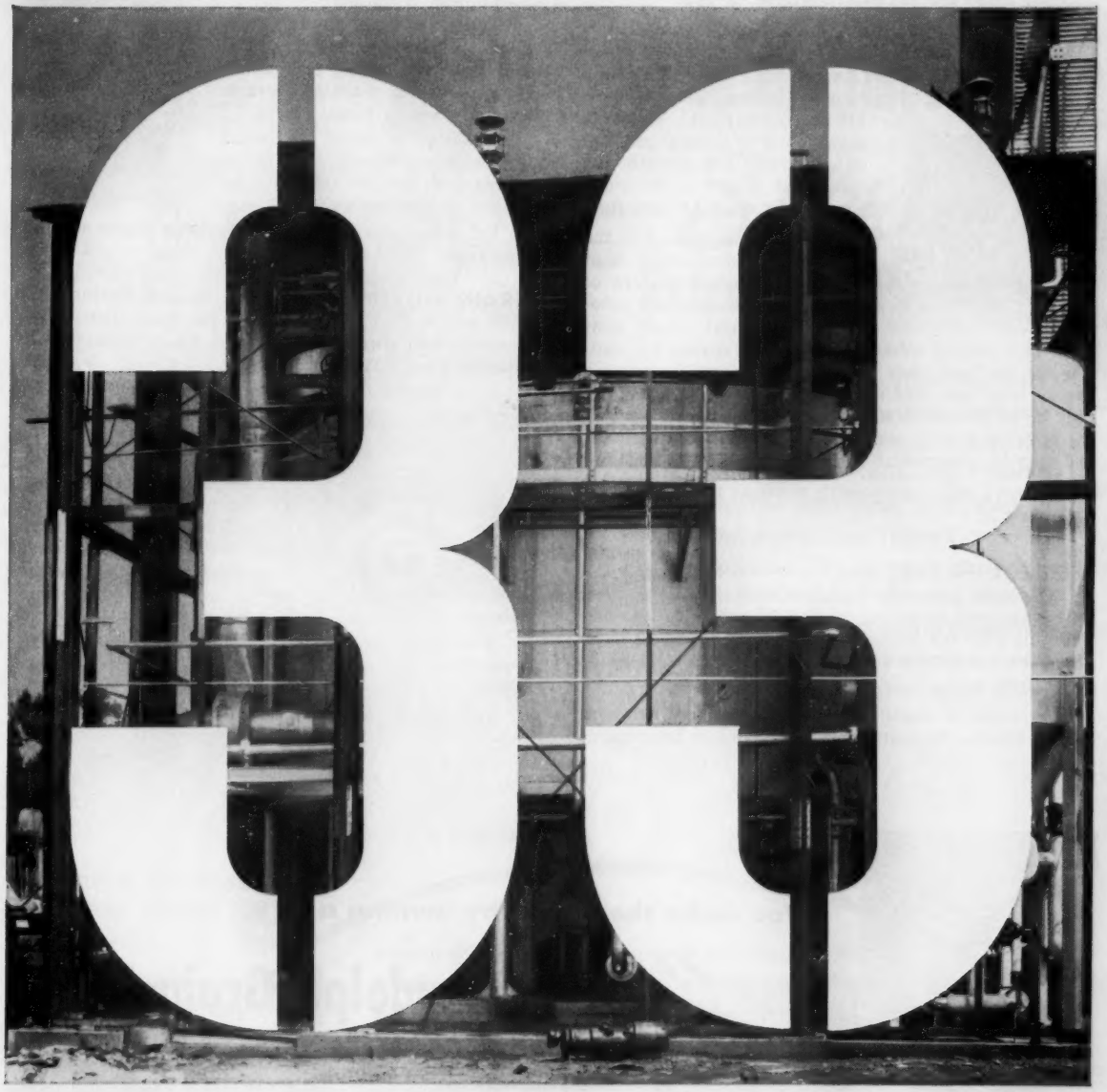
**BYPRODUCTS.** The price of soybean acid soapstock declined from 5¢ a pound to 4½¢ in March. Raw soybean soap stock declined from 1½¢ to 1⅜¢.

**CASH PRICES MARCH 1960***

| Mar. | No. 1 yellow soybeans Chicago | Bulk soybean meal Decatur | Soybean oil Decatur | Cottonseed oil Mississippi Valley | Coconut oil Pacific Coast | Lard Chicago |
|---|---|---|---|---|---|---|
| 1 | $2.14½ | $56.00 | $.07½ | $.09⅛ | $.17⅝ | $.0835 |
| 2 | 2.14¼ | 55.00 | .07½ | .09⅛ | .17⅝ | .0830 |
| 3 | 2.15¼ | 55.00 | .07½ | .09⅛ | .17½ | .0855 |
| 4 | 2.15 | 55.00 | .07½ | .09¼ | .17⅛ | .0840 |
| 5 | Saturday | | | | | |
| 7 | 2.15¼ | 55.00 | .07½ | .09¼ | .17 | .0852 |
| 8 | 2.13¾ | 54.50 | .07½ | .09⅜ | .16⅞ | .0850 |
| 9 | 2.15¼ | 54.00 | .07½ | .09⅜ | .17 | .0860 |
| 10 | 2.14¾ | 54.00 | .07½ | .09⅜ | .17 | .0865 |
| 11 | 2.15½ | 54.50 | .07⅝ | .09½ | .16⅞ | .0865 |
| 12 | Saturday | | | | | |
| 14 | 2.17 | 55.00 | .07⅝ | .09½ | .16⅞ | .0870 |
| 15 | 2.17¼ | 56.00 | .07¾ | .09½ | .16¾ | .0875 |
| 16 | 2.17½ | 56.00 | .07⅝ | .09⅜ | .16½ | .0880 |
| 17 | 2.17 | 55.50 | .07⅝ | .09½ | .16½ | .0880 |
| 18 | 2.15¼ | 56.00 | .07⅝ | .09½ | .16⅝ | .0875 |
| 19 | Saturday | | | | | |
| 21 | 2.15¾ | 56.00 | .07⅝ | .09½ | .16¾ | .0875 |
| 22 | 2.16 | 56.50 | .07¾ | .09½ | .16⅝ | .0880 |
| 23 | 2.16½ | 56.50 | .07¾ | .09⅝ | .16⅝ | .0887 |
| 24 | 2.17 | 56.50 | .07¾ | .09⅝ | .16⅝ | .0887 |
| 25 | 2.17½ | 56.50 | .07⅞ | .09⅝ | .16½ | .0895 |
| 26 | Saturday | | | | | |
| 28 | 2.19 | 56.50 | .08⅛ | .09¾ | .16¼ | .0922 |
| 29 | 2.19½ | 56.50 | .08⅛ | .09⅞ | .16¼ | .0912 |
| 30 | 2.19 | 57.00 | .08 | .09⅞ | .16¼ | .0925 |
| 31 | 2.20 | 57.00 | .08 | .09⅞ | .16¼ | .0925 |

* From Wall Street Journal, Chicago.

*Blaw-Knox builds for Cargill, Inc., Spencer Kellogg & Sons, Inc., and Quincy Soy Products Company.* These recent projects feature the widely used Blaw-Knox Rotocel Extractor. Rotocels have been built with capacities ranging from 100 to 1800 tons per day.



# 33 plants built by Blaw-Knox extract 210,000,000 bushels of soybeans each year

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*In the United States more soybeans are extracted by Blaw-Knox equipment than by all other types combined.*

This leadership extends to the total fats and oils industry. Some 97 processors have relied on some phase of Blaw-Knox's engineering and construction services.

For details, send for Bulletin 2515 which surveys plants and processes for the fats and oils industry, or contact our engineers for a preliminary discussion. Blaw-Knox Company with headquarters in Pittsburgh. Branch offices in New York; Chicago; Haddon Heights, N.J.; Birmingham; Washington, D.C.; San Francisco.

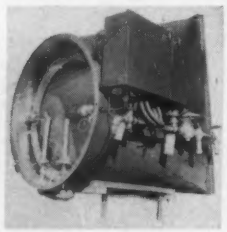
*Chemical Plants Division*

**BLAW-KNOX**

## NEW PRODUCTS and SERVICES

**DRIERS.** Lennox Industries, Inc., announces two new products recently added to its line.

A new heat section using natural gas, known as the GB9-4000N (shown in picture), is now available for use on the Lennox Super 600 recirculating drier. This unit is powered with a 15-horsepower motor using 3 phase 110 v ac current. The unit permits use of natural gas fuel at large farm and elevator installations where it is more economical than LP gas fuel.

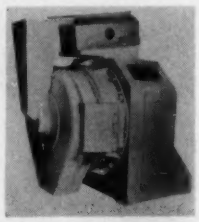


Another new product is the GBI-75 supplemental heat drier. Outstanding feature of this drier is a completely automatic humidistat on-off control. This control solves a problem in drying by shutting off the heat when relative humidity falls below a pre-set level and turning it on when relative humidity goes up to a maximum. The unit operates on LP gas, fits both the 21-inch and 24-inch Lennox tube-axial fans and may be attached to fans already installed on bins.

For more information write Soybean Digest 4b, Hudson, Iowa.

**FEED EQUIPMENT.** Ross Machine & Mill Supply Co. is introducing a new line of specialized feed and flour mill equipment, including the T-R MonoRoll Cubing and Pelleting Machine of from 25 to 75 horsepower capacity. The basic machine is 25 horsepower with a capacity of 45 cwt per hour.

The machine features simplicity of operation with no die clamps, no gears, only four Timken bearings in the entire machine, increased output per horsepower, and improved cubing and pelleting quality. Other features include reversible bolt-fixed die and improved cubing and pelleting quality. The machine operates without noise or vibration.



A number of other new units are included in the line. It is anticipated that the firm will be in full production early in May.

For more information write Soybean Digest 4c, Hudson, Iowa.

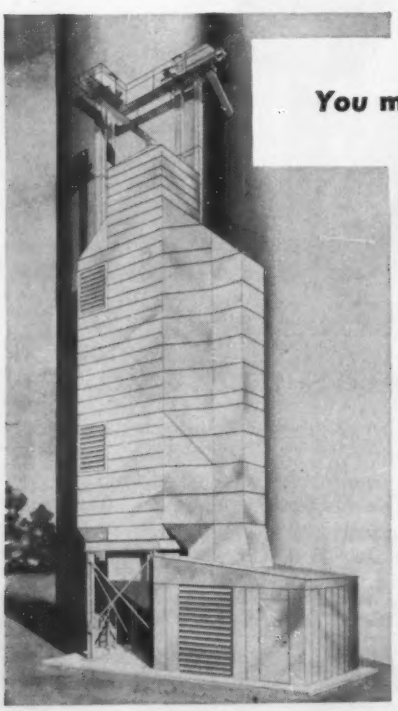
**GRAIN MOVER.** A new grain-moving machine, the 3500 series Vac-U-Vator, featuring more power and greater grain moving capacity, has been announced by Dunbar Kapple, Inc.

Grain can be elevated up to 100 feet—20 feet higher than previous elevators. Grain conveying distances up to 600 feet can be handled, an increase of approximately 20%.

In addition to greater capacity and more power, the new Vac-U-Vator features a lower silhouette. This machine is 18 inches lower than previous models, permitting greater mobility in tight areas.

Two power units are available on the 3500—an International Harvester V-8 gasoline or a Cummins diesel engine. They are interchangeable.

For more information write Soybean Digest 4a, Hudson, Iowa.

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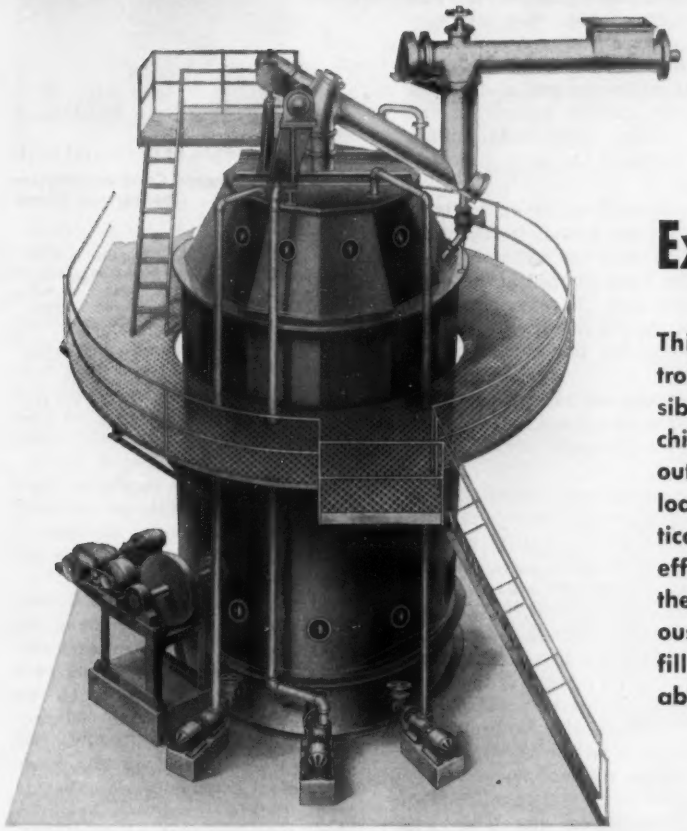

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# USDA Stays with Export Estimates

By PORTER M. HEDGE
Washington Correspondent for The Soybean Digest

AS THE FATS and oils marketing season reaches the halfway mark, operating officials here are perhaps more confident of their estimates of export use than they were when the figures were originally established at about farm outlook time last fall.

This is true in spite of what might be called a storm of criticism that has descended on USDA. Processors generally are feeling pain because of low margins resulting from the much lower price of oil and the comparatively low price of soybean meal. The most general complaint from others is that they just can't "figure" the situation, and they wonder if Washington knows something they do not.

About the only thing left to speculate on in terms of administrative action is whether there will be an oil buying, storage, or disposal program as authorized in the last extension of Public Law 480. There may or may not be, but if it is in the immediate picture the front office has done an unusually good job of keeping it under cover. In the meantime, these are some of the elements in the picture that officials think are reason for at least some degree of optimism.

When all edible fats and oils are considered together, exports during the first 4 months of this marketing season were 28% above the same period last year. Official figures are not available beyond January.

The figure includes soybean and cottonseed oils, lard, and the oil equivalent of soybeans shipped as beans. Most of the shipments have been commercial shipments. Only a small part of the P. L. 480 scheduled program has moved to date.

The total represents 38% of the export target for all fats and oils. The increases are in lard, cottonseed oil and in soybeans. Combined shipments of cottonseed and soybean oil totaled 366 million pounds in the first 4 months. This is 42 million pounds ahead of the same 4 months last year.

For cottonseed oil the export total was 218 million pounds for October-January. This is 150 million pounds more than were shipped in the same period last year. It represents two-thirds of the 225 increase in this oil programmed for this shipping year over last.

The soybean oil total is only 148 million pounds—down 107 million pounds from the same period a year ago.

Soybean shipments totaled 61 million bushels for October-January—an increase of 14 million bushels above the same period last year. An additional 15 million bushels were programmed for this year. This means that if soybean shipments can maintain the same pace as last year during the last 8 months of the marketing year, the export goal of 125 million bushels will have been met.

Lard exports for the first 4 months added to 244 million pounds — 100 million pounds more than during the same months a year ago. The total increase expected in lard was 150 million pounds.

The table in the next column shows official export totals through January for the current season compared with the export goal for the year and total shipments last year.

Edible oil exports will have to hit a faster pace during the last half of the year if the export program is to be met. A sizable pickup in shipments is expected in the second half. Most of this is expected to come in commercial shipments because of the bargain prices for oil.

| | Unit | Season's export goal | Shipped Oct.-Jan. this season | Total shipped last year |
|---|---|---|---|---|
| | | (in millions) | | |
| All fats and oils | lbs. | 3,700 | 1,400 | 3,300 |
| Cottonseed and soybean oils | lbs. | 1,350 | 366 | 1,334 |
| Soybeans | bu. | 125 | 61 | 110 |
| Lard | lbs. | 700 | 244 | 536 |

Part of it will come in P. L. 480 shipments. In early March about 300 million pounds of soybean and cottonseed oils scheduled under 480 through June remained to be shipped. Additions to the 480 program also are expected. P. L. 480 carried the export load last year. Commercial shipments are expected to pull it this season.

The peak in lard production is passed. Lard production this spring is expected to be about the same as last year. Next summer it is expected to be lower than it was in 1959.

Supplies of cottonseed oil also will be smaller from this point on. About 40% of the increase in production this year has been absorbed by the increase in cottonseed oil exports during the first 4 months of the current marketing season.

Some additional business is likely to go to soybean oil. There is a division of opinion here as to what will happen to soybean oil prices. Some officials think the price is apt to move up a little. Others do not think so, though the former are in the majority. All are sure that carryover oil stocks are going to be large unless USDA steps into the picture during the last half with a buying or disposal program.

### Price Outlook

Soybean prices are expected to hold relatively stable. The decision

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to leave the Commodity Credit Corp. minimum sales price at the same point—20¢ a bushel over the loan rate—indicates this. The minimum sale price won't put a floor under soybeans. But officials think it will tend to hold prices to the farmer fairly close to the minimum.

CCC has 22,150,000 bushels of soybeans that will not move below the minimum sales price. It has 8½ million bushels in inventory from last year's stocks. There are 13,650,000 bushels of 1958-crop soybeans under reseal on farms. These will be taken over by CCC next summer.

There were 52.3 million bushels of 1959-crop beans under loan and purchase agreement through February. These will move at whatever farmers can get for them, but not less than the $1.85 (national rate) loan. Most officials think farmers will tend to hold on to these beans—at least until delivery date, and some beyond that time.

USDA estimates carryover of soybeans at 40 to 45 million bushels. This is based on a crush of 400 million bushels, the same as a year ago. Many in the trade doubt that the crush will be this high unless additional steps are taken to move oil and meal.

A crush of about 385 million bushels would be needed to meet the export goal for the two edible oils.

### CCC Sales Policy

The minimum sales price for CCC-owned soybeans from now through the balance of this marketing year will be the county loan rate plus 20¢. The county rate for No. 2 beans at the point of storage is used to get the minimum price in-store. Value of any transit is added, and market discounts for quality factors are applied.

The sales policy applies to soybeans already in CCC's inventory, and any that are acquired under price support.

A soybean supply during the 1960-61 marketing year about like the one this year is indicated by the Mar. 1 report of farmers' intentions to plant.

Plantings of 24.7 million acres were indicated, almost as large as the peak of 25 million acres in 1958.

No indication is given at this time as to what the harvested acreage would be. However, if about the same proportion of total acres were harvested for beans as last year, 23.8 million acres would be combined. At the 3-year average yield of 23½ bushels per acre, a crop of 559 million bushels would be produced.

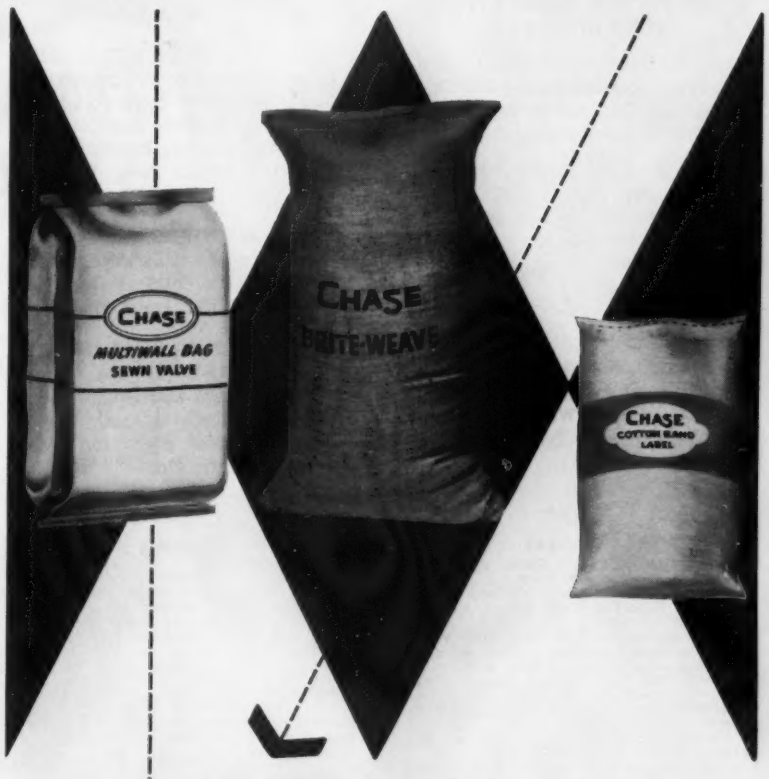
Total supply would be in the neighborhood of 600 million bushels, depending of course on size of the carryover.

### Urge Study of Role of Fat in Human Nutrition

THE ROLE of fats in human nutrition and the composition of food fats is an important problem needing intensive study, according to members of the U. S. Department of Agriculture's home economics research advisory committee.

The committee recommended investigations of fat metabolism in man on self-chosen diets and on controlled diets, to define the relative importance of different kinds of fats and fatty acids and the way various nutrients affect synthesis and utilization of fat in the body.

In addition, more information on the composition of fatty acids and other lipid fractions in food should be obtained with the aid of new analytical methods now available, the committee noted.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# - MARKET STREET -

**We invite the readers of THE SOYBEAN DIGEST to use MARKET STREET for their classified advertising. If you have processing machinery, laboratory equipment, soybean seed, or other items of interest to the industry, advertise them here. Rate 10c per word per issue. Minimum insertion $2.00.**

FOR SALE—ANDERSON Expellers and French screw-presses, cookers, driers, 5-high, 48-inch crushing rolls, 36-inch attrition mills, sewing machines, hammermills, cracking rolls, filter presses. Ray L. Jones, 1923 Hayselton Drive, Jefferson City, Mo.

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FOR SALE—NEW AND RECONDITioned Richardson and OK bagging scales; Union Special, Fischbein, Minneapolis, and Wilcox & Gibbs sewing heads. Whizzer bagging conveyors, bins. Winborns, Mill Equipment Service, Williamsburg, Iowa.

FOR SALE—12½-TON TOLEDO dial suspension hopper scale, like new, 32-inch dial, model 2500. O. W. Meyer, Napoleon, Ohio.

FREE CATALOG! BULK BINS, farm automation equipment, elevator legs, screw conveyors, auger elevators, mixers and cleaners. Write to: Burrows Equipment Co., 1316-D Sherman Ave., Evanston, Ill.

CERTIFIED SOYBEANS — CHIPpewa, Harosoy, Hawkeye, Adams, Shelby, Clark. 7621. Turner Seed & Supply, Villa Grove, Ill.

PRATER 75 H.P. DUAL SCREEN pulverizer. Also 100-lb. Richardson meal scale and Union Special 12-inch belt sewing machine. Ray L. Jones, 1923 Hayselton Drive, Jefferson City, Mo.

## SEED DIRECTORY

### ARKANSAS

**Blytheville**—Glen A. Cook, Rt. 4, Box 235, 1 800 bu. Arkansas Blue Tag Lee; 1,000 bu. Arkansas Blue Tag Ogden; 400 bu. Arkansas Blue Tag Hood; 400 bu. Arkansas Blue Tag Dorman.

**Burdette**—G. A. Hale, Hale Seed Farms, 8,000 bu. registered Hale Ogden No. 2.

**Frenchmans Bayou**—Gibson & Hall, P.O. Box 116, 800 bu. certified Dorman; 2,000 bu. uncertified Lee; 200 bu. certified Hood.

**Grubbs**—Denton Brothers, Inc., 4,000 bu. registered and certified Hood.

**Jonesboro**—Mode Gregory, 1311 W. Matthews, 600 bu. registered Hood.

**Scott**—Robert L. Dortch Seed Farms, registered and certified Dortchsoy 67A, Dorman, Dortchsoy 2A, Lee, Hood, Dortchsoy 31, and Jackson.

**Stuttgart**—Jacob Hartz Seed Co., Inc., Box 109, registered Hood; registered Lee; registered and certified Jackson; certified Ogden; certified Dorman; all varieties non-certified.

**Wilson**—Lee Wilson & Co., seed and chem dept., certified Lee.

**Wynne**—Holleman Seed Service Co., Rt. 1, Box 129, 4,000 bu. certified Lee; 4,000 bu. certified Jackson; 1,000 bu. registered Hood; also uncertified Lee and Jackson.

### ILLINOIS

**Fairmount**—Trisler Seed Farms, Inc., 2,000 bu. certified Wabash; 1,300 bu. certified Lincoln; 2,000 bu. certified Shelby; 2,000 bu. certified Harosoy; 500 bu. certified Hawkeye; 500 bu. certified Adams.

**Gibson City**—Noble Brothers Seed Co., good stocks certified Clark; certified Shelby; certified Lindarin; certified Hawkeye; certified Harosoy; certified Adams; uncertified Clark, Harosoy, Lincoln, Adams and Hawkeye.

**Mundelein**—Huebsch Seed Farms, 135 Midlothian Rd., 2,000 bu. certified Hawkeye; 1,000 bu. certified Harosoy.

**Pontiac**—Wilken Seed Grain Co., Rt. 4, 5,000 bu. certified and uncertified Harosoy; 3,500 bu. certified and uncertified Hawkeye; 1,500 bu. certified and uncertified Adams; 2,500 bu. certified Shelby; 400 bu. certified Lindarin.

**Ridgway**—Jones Farm Store & Elevator, 8,000 bu. Kingwa hay beans; 5,000 bu. Virginia hay beans, packed in 2-bu. bags; 40,000 bu. certified and uncertified Clark.

**San Jose**—Kelly Seed Co., 3,000 bu. certified Hawkeye; 4,000 bu. certified Harosoy; 3,000 bu. certified Clark; 5,000 bu. registered No. 1 Shelby.

**Sullivan**—Landers Seed Co., registered I Shelby; registered II Harosoy; certified Hawkeye; certified Adams; also uncertified of above varieties and Clark.

### INDIANA

**Lafayette**—Agricultural Alumni Seed Improvement Association, Inc., Rd. 52 N., foundation seed for certified production of Shelby, Lindarin and Clark.

**Mt. Vernon**—Naab Farm Seeds, Rt. 2, 3,000 bu. certified Shelby.

**Valparaiso**—Wyckoff Hybrid Corn Co., certified Chippewa; certified Blackhawk; certified Harosoy; certified Hawkeye; uncertified Monroe.

**Walton**—Geo. M. Hopper, Hopper Farms, Rt. 2, 600 bu. certified Harosoy.

### IOWA

**Conroy**—Henry G. Plagmann, Jr., 700 bu. certified Ford, 92% germ.

**Grand Junction**—Edward Bechard, 1,000 bu. certified Ford in 1-bu. bags.

**Hudson**—Strayer Seed Farms, 1,200 bu. certified Ford; 500 bu. certified Kanrich (vegetable); 600 bu. certified Kim (vegetable).

**Laurel**—Vern Seitmann or Bert Benskin, certified blue tag Ford, packed in new 1½ bu. bags. Special Price.

**Lynnville**—Lynnville Seed Co., 4,000 bu. uncertified Lincoln; 4,500 bu. uncertified Adams; 5,000 bu. uncertified Clark; 3,000 bu. certified Ford; 10,000 bu. uncertified Hawkeye.

**Marcus**—Sand's Seed Service, 20,000 bu. certified Hawkeye; 40,000 bu. uncertified Hawkeye; 3,000 bu. uncertified Chippewa.

**Minburn**—E. Howard Hill, 1,000 bu. certified Ford, phone Ken Joslin, 12R15.

**Ogden**—Clarence E. Carlson, Rt. 1, 700 bu. certified Ford.

**Union**—Merle Stanfield, Rt. 1, 1,500 bu. certified Ford.

**Washington**—Frank J. Patterson, Rt. 4, 800 bu. Iowa B. T. certified Ford.

### MARYLAND

**Silver Spring**—Dr. Donald R. Bianco, 212 Indian Spring Drive, 1,200 bu. registered Hill.

### MINNESOTA

**Bird Island**—A. A. Ziller, 200 bu. certified and registered Ottawa Mandarin; 200 bu. certified and registered Capital; 400 bu. certified and registered Grant; 400 bu. certified and registered Norchief; 300 bu. certified Comet; 1,000 bu. certified and registered Chippewa; 300 bu. uncertified Acme.

**Hanska**—J. H. Schrooten, Rt. 1, 2,500 bu. certified and registered Chippewa; 2,000 bu. uncertified Chippewa; 2,000 bu. certified Harosoy; 1,600 bu. uncertified Harosoy; 600 bu. certified Comet; 500 bu. certified Ottawa Mandarin; also certified Hawkeye, Norchief, Acme, Crest and Ford.

**Hastings**—Henry Trapp, Rt. 2, 500 bu. uncertified Chippewa.

**Lake Crystal**—Wayne Othoudt, 400 bu. registered Blackhawk; 70 bu. certified Ottawa Mandarin; 250 bu. registered Grant; 500 bu. certified Chippewa; 100 bu. registered Comet.

### MISSISSIPPI

**Hattiesburg**—Leo W. Klarr, Ellkay Farms, Rt. 1, Box 184, 8,000 bu. certified Jackson.

### MISSOURI

**Hayti**—Jacob Van Dyke, Rt. 1, Box 443, 1,000 bu. registered and certified Hood.

**Louisiana**—Farm Supply Co., certified Shelby; certified Clark.

**McCredie**—Wise Bros., 5,000 bu. registered Shelby.

**Monticello**—Hilburn Fishback, 750 bu. certified Shelby; 750 bu. uncertified Shelby.

**Sikeston**—Dye Seed Service, Box 468, limited number registered Hill; truckload lots registered Hood.

### NEBRASKA

**Elk City**—Wahlgren Seed Farms, 1,200 bu. certified Ford; 1,500 bu. certified Clark.

**Rising City**—Wm. A. Miller, Rt. 1, 900 bu. certified Ford.

**West Point**—Fred A. Meyer, Rt. 2, Box 98, 90 bu. certified Ford; 175 bu. certified Harosoy; 50 bu. uncertified Chippewa.

### NORTH CAROLINA

**Aberdeen**—D. P. Troutman, 407 N. Popular St., 500 bu. registered Hill.

**Selma**—Gurley Milling Co., Box 488, 5,000 bu. uncertified Lee; 2,500 bu. certified and registered Lee; 5,000 bu. uncertified Jackson; 1,000 bu. certified Jackson; 1,000 bu. certified Hood; 500 bu. certified Hill; 2,500 bu. uncertified Roanoke; 1,000 bu. uncertified Ogden; 3,000 bu. uncertified J.E.W. 45; 2,500 bu. uncertified C.N.S. 4 and 24; 500 bu. Wood's Yellow; 500 bu. Tokyo and other varieties.

### OHIO

**Covington**—Ebberts Field Seed Co., 15,000 bu. uncertified Hawkeye, 90% germ.

**Green Springs**—Ohio & Michigan Seed Co., Box 28, truck or less truck lots certified Hawkeye, Lincoln and Harosoy.

**Hillsboro**—Arthur Roy Kinzer, Rt. 3, 100 bu. uncertified Shelby.

**Mechanicsburg**—Scott Farm Seed Co., 2,000 bu. certifed Clark.

### SOUTH CAROLINA

**Mayesville**—W. R. Mayes, Box 46, 2,000 bu. certified Jackson; 3,000 bu. uncertified Jackson; 1,000 bu. certified Coker's Yelnanda.

**St. Matthews**—L. B. Wannamaker Seed Co., Box 194, Lee, Jackson, C.N.S. 4 and J.E.W. 45, certified and uncertified, large quantities.

### TENNESSEE

**Halls**—William G. Spence, Rt. 3, 2,000 bu. certifed Hood, 1,000 bu. uncertified Ogden.

**Memphis**—Denning & Caldwell, 3461 Highland Cove, 600 bu. certified Hood.

### VIRGINIA

**Clay Bank**—Louis Groh & Son, Inc., 10,000 bu. uncertified Lee; 8,000 bu. uncertified Black Wilson; 5,000 bu. uncertified Ogden; 10,000 bu. uncertified Hood; 3,000 bu. certified Hood; 2,000 bu. certified Hill.

**Norfolk 15**—Davis Grain Corp., Box 7595, certified Hood, Lee, Ogden.

### WISCONSIN

**Colfax**—E. F. Meyers, Rt. 2, 240 bu. certified Chippewa.

**Kenosha**—Iverson Seed Service, Rt. 4, Box 720, 2,000 bu. certified Blackhawk; 1,000 bu. certified Chippewa.

# ALANAP®

PRE-EMERGENCE WEED CONTROL

## SOYBEANS NEEDN'T HAVE WEEDS

Liquid or granular ALANAP®, *the* pre-emergence weed killer, gives positive control when recommended dosages are followed.

- You can plant earlier
- Hand weeding is out
- Soybeans may be harvested earlier
- Cleaner fields at harvest time allow faster combine operation
- Clean fields mean higher yields

Upper photo shows soybeans choked with weeds. Lower photo shows healthy soybeans growing freely after treatment with ALANAP, the pre-emergence weed killer.

**United States Rubber**

**Naugatuck Chemical Division**

**496AL Elm Street, Naugatuck, Connecticut**

producers of seed protectants, fungicides, miticides, insecticides, growth retardants, herbicides: Spergon, Phygon, Aramite, Synklor, MH, Alanap, Duraset.

# IN THE MARKETS

**EXPORTS.** Record volumes of soybeans and oilseed meals were exported from the United States during October-January of 1959-60, according to Foreign Agricultural Service. Shipments of edible oils, although somewhat above those of the previous year, were 30% below the record October-January 1956-57 exports.

Soybean exports, at a new high of 60.9 million bushels, were up 13.5 million bushels from the previous October-January record set last season. Practically all of the increase is attributed to larger shipments to northern Europe.

Edible oil exports (cottonseed and soybean oils) were up 42 million pounds from the volume in the first 4 months of the previous marketing year, but were well below the record 500.2 million pounds shipped in October-January 1956-57. Although shipments in the first few months of this year under Title I of P. L. 480 have been lagging far behind those last year, they have been more than offset by larger dollar sales, mainly of cottonseed oil.

Exports of oilseed meals in the first third of this marketing year were at a record level, and were only 16% below total shipments in the 12 preceding months.

**Soybeans, edible oils, and oilseed cakes and meals: U. S. exports, year beginning Oct. 1, 1957 and 1958, October-January 1958-59 and 1959-60**

| | 1957-58 | 1958-59 | October-January 1958-59[1] | 1959-60[1] |
|---|---|---|---|---|
| | | Million bushels | | |
| Soybeans | 85.5 | 110.1 | 47.4 | 60.9 |
| | | Million pounds | | |
| Edible oils: | | | | |
| Soybean | 804.0 | 930.4 | 255.1 | 147.9 |
| Cottonseed | 248.0 | 404.2 | 68.8 | 218.0 |
| Total | 1,052.0 | 1,334.6 | 323.9 | 365.9 |
| Oil equivalent of soybeans | 938.9 | 1,208.6 | 519.9 | 668.7 |
| | | 1,000 short tons | | |
| Cakes and meals: | | | | |
| Soybean | 300.0 | 512.2 | 202.2 | 318.8 |
| Cottonseed | 7.2 | 27.3 | 4.7 | 114.9 |
| Linseed | 5.9 | 31.2 | 12.5 | 47.0 |
| Total [2] | 316.3 | 581.0 | 220.6 | 487.4 |
| Meal equivalent of soybeans | 2,001.0 | 2,609.0 | 1,122.0 | 1,431.0 |

[1] Preliminary. [2] Includes peanut cake and meal and small quantities of other cakes and meals.

**EXPORTS.** Preliminary data on U. S. exports of soybeans and soybean products for January 1960, with comparable data for January 1959 and cumulative totals for October-January in the marketing years 1958-59 and 1959-60, from Foreign Agricultural Service, U. S. Department of Agriculture.

| | Unit | January 1959 | January 1960 | October-January 1958-59 | October-January 1959-60 |
|---|---|---|---|---|---|
| Soybeans | bu. | 9,315,553 | 10,262,960 | 47,354,001 | 60,904,401 |
| Soybean oil: | | | | | |
| Crude | lb. | 38,105,612 | 20,244,603 | 105,493,667 | 102,111,189 |
| Refined but not further processed | lb. | 2,117,870 | 2,085,377 | 13,082,802 | 19,726,534 |
| Refined, deodorized and hydrogenated | lb. | 47,928,360 | 8,557,949 | 136,499,730 | 26,064,894 |

**Cottonseed and soybean oils and lard: Exports under Title I, Public Law 480 programs, and total exports, October 1954-January 1960 (million pounds)**

| | Oct. 1-Sept. 30 1954-55 | 1955-56 | 1956-57 | 1957-58 | 1958-59 | Oct. 1-Jan. 31 1958-59 | 1959-60 |
|---|---|---|---|---|---|---|---|
| Exports under P. L. 480 | | | | | | | |
| Cottonseed | 117 | 291 | 55 | 97 | 141 | 1 | 44 |
| Soybean | — | 279 | 495 | 592 | 747 | 216 | 63 |
| Total oils | 117 | 570 | 550 | 689 | 888 | 217 | [1]107 |
| Lard | — | 112 | 65 | 3 | — | — | — |
| Total exports: | | | | | | | |
| Cottonseed | 710 | 611 | 423 | 248 | 404 | 69 | [2]217 |
| Soybean | 50 | 557 | 807 | 803 | 941 | 255 | [2]152 |
| Total oils | 760 | 1,168 | 1,230 | 1,051 | 1,345 | 324 | 369 |
| Lard | 528 | 663 | 530 | 394 | 535 | 147 | [2]220 |

[1] P. L. 480 exports are reported according to the month in which the bill of lading was dated. [2] January exports estimated. Foreign Agricultural Service.

**Title I, P. L. 480 exports for July 1959-February 1960**

| | February 1960 Metric tons | February 1960 Quantity in pounds | July 1959-February 1960 Metric tons | July 1959-February 1960 Quantity in pounds |
|---|---|---|---|---|
| Cottonseed oil | 9,040 | 19,930,000 | 60,674 | 113,764,000 |
| Soybean oil | 7,281 | 16,053,000 | 145,406 | 320,566,000 |

Foreign Agricultural Service, U. S. Department of Agriculture.

**Active P. L. 480 purchase authorizations under which purchases by foreign buyers had not been completed as of Mar. 8, 1960 (metric tons)**

| | PA No. | Amount authorized | Contracting authorized through |
|---|---|---|---|
| **Soybean and/or cottonseed oil** | | | |
| Colombia | 25-30 | 12,600 | May 31, 1960 |
| Israel | 16-64 | 10,000 | May 31, 1960 |
| Spain | 17-66 | 2,600 | May 31, 1960 |
| Spain | 17-67 | 2,800 | May 31, 1960 |
| Spain | 17-68 | 1,300 | May 31, 1960 |
| Spain | 17-70 | 54,800 | May 31, 1960 |

Purchases of about 3,000 metric tons under the authorizations listed above have been reported. Foreign Agricultural Service.

**Soybeans: Inspections for export by ports and Great Lakes shipments February 1960 (1,000 bu.)**

| | | | |
|---|---|---|---|
| **Atlantic** | | Houston | 37 |
| Philadelphia | 42 | Port Allen | 812 |
| Baltimore | 1,879 | Subtotal | 5,061 |
| Norfolk | 305 | **Totals** | |
| Subtotal | 2,226 | February 1960 | 7,287 |
| **Gulf** | | Jan.-Feb. 1960 | 16,545 |
| New Orleans | 3,409 | Jan.-Feb. 1959 | 16,639 |
| Mobile | 803 | | |

Based on weekly reports of inspections for export by licensed inspectors and does not include rail and truck movement to Canada or Mexico.

**Soybeans: Inspections for export by coastal areas and country of destination February 1960 (1,000 bu.)**

| | | | |
|---|---|---|---|
| **Atlantic** | | Belgium | 153 |
| United Kingdom | 261 | West Germany | 181 |
| Netherlands | 92 | Italy | 307 |
| France | 428 | Trieste | 78 |
| Algeria | 101 | Israel | 479 |
| Japan | 1,331 | Korea | 27 |
| Other | 13 | Japan | 2,408 |
| Subtotal | 2,226 | Morocco | 143 |
| **Gulf** | | Subtotal | 5,061 |
| Cuba | 50 | Grand total | 7,287 |
| Norway | 52 | Total Jan.-Feb. 1960 | 16,545 |
| Netherlands | 1,183 | Total Jan.-Feb. 1959 | 16,639 |

Based on weekly reports of inspections for export by licensed inspectors and does not include rail or truck movement to Canada or Mexico. In some cases, the ultimate destination of the soybeans exported is not shown on the inspection reports. Therefore, the quantity for each country may vary from official Census data which are based on custom declarations.

**PROCESSING OPERATIONS.** Reported by Bureau of the Census for January and February 1960.

**Primary products except crude oil at crude oil mill locations: Production, shipments and transfers, and stock, February 1960-January 1960 (1,000 tons)**

| | Production February 1960 | Production January 1960 | Shipments and transfers February 1960 | Shipments and transfers January 1960 | Stocks end of month Feb. 29, 1960 | Stocks end of month Jan. 31, 1960 |
|---|---|---|---|---|---|---|
| Soybean: | | | | | | |
| Cake and meal | 697.3 | 774.9 | 698.5 | 743.0 | 94.0 | 95.2 |
| Millfeed (hull meal) | 11.6 | 10.8 | 11.0 | 10.2 | 4.0 | 3.4 |

**Soybeans: Net receipts, crushings, and stocks at oil mills, by states, February 1960-January 1960 (1,000 tons)**

| | Net receipts at mills[1] February 1960 | Net receipts at mills[1] January 1960 | Crushed or used February 1960 | Crushed or used January 1960 | Stocks at mills Feb. 29, 1960 | Stocks at mills Jan. 31, 1960 |
|---|---|---|---|---|---|---|
| U. S. | 587.4 | *652.9 | 919.9 | 1,016.8 | 2,437.5 | *2,770.0 |
| Arkansas | 6.7 | 9.2 | 18.2 | 25.7 | 103.5 | 114.9 |
| Illinois | 174.8 | 231.1 | 262.6 | 301.7 | 444.5 | 532.3 |
| Indiana | (2) | 55.3 | 80.2 | 80.4 | 199.7 | (2) |
| Iowa | 106.3 | 118.8 | 162.5 | 164.1 | 371.9 | 428.1 |
| Minnesota | 52.9 | 74.7 | 72.3 | 76.9 | 123.2 | 142.7 |
| Mississippi | (2) | 6.4 | 31.0 | 33.4 | (2) | 188.5 |
| Missouri | 16.0 | 9.9 | (2) | (2) | (2) | 149.5 |
| Nebraska | (2) | (2) | (2) | (2) | (2) | (2) |
| North Carolina | 9.1 | 7.6 | 13.1 | 7.9 | 79.7 | 83.7 |
| Ohio | 56.0 | 37.9 | 82.2 | 87.4 | 260.8 | 287.0 |
| Tennessee | 60.9 | 42.0 | 77.4 | 99.3 | 214.0 | 230.4 |
| All other | 104.7 | *60.0 | 120.4 | 140.0 | 640.2 | *612.9 |

* Revised. Note: Detail figures may not add to totals because of independent rounding. [1] Net receipts for each state are derived from the quantity of beans crushed and net change in stocks. [2] Included in "All other" to avoid disclosure of figures for individual companies.

**Soybean products: Production and stocks at oil mill locations, by states, February 1960-January 1960**

| State | Crude oil (millions of pounds) Production | | Crude oil (millions of pounds) Stocks | | Cake and meal (thousands of tons)[1] Production | | Cake and meal (thousands of tons)[1] Stocks | |
|---|---|---|---|---|---|---|---|---|
| | February 1960 | January 1960 | Feb. 29, 1960 | Jan. 31, 1960 | February 1960 | January 1960 | Feb. 29, 1960 | Jan. 31, 1960 |
| U. S. | 335.4 | 370.5 | 156.5 | 168.6 | 708.9 | 785.7 | 98.0 | 98.6 |
| Arkansas | 6.4 | 9.3 | 1.6 | 1.6 | 13.6 | 19.9 | 6.0 | 5.5 |
| Illinois | 98.6 | 113.5 | 49.7 | 59.4 | 198.8 | 226.8 | 25.2 | 24.0 |
| Indiana | 30.1 | 30.1 | (2) | (2) | 62.6 | 62.5 | 6.2 | (2) |
| Iowa | 58.1 | 58.9 | 19.1 | 20.8 | 128.2 | 131.3 | 17.7 | 17.1 |
| Minnesota | 25.6 | 26.6 | 34.3 | 24.6 | 56.4 | 58.4 | 4.7 | 5.7 |
| Mississippi | 11.5 | 12.1 | 4.1 | 4.0 | 23.9 | 25.5 | 3.3 | 3.1 |
| Missouri | (2) | (2) | 2.2 | (2) | (2) | (2) | 2.8 | (2) |
| Nebraska | (2) | (2) | (2) | (2) | (2) | (2) | (2) | (2) |
| N. Carolina | 4.1 | 2.2 | 0.9 | (2) | 10.2 | 6.2 | 1.3 | (2) |
| Ohio | 30.9 | 32.7 | 7.1 | 8.8 | 63.1 | 67.9 | 7.7 | 9.0 |
| Tennessee | 27.8 | 35.7 | 6.1 | 7.7 | 56.3 | 76.1 | 8.3 | 10.5 |
| All other | 42.3 | 49.4 | 31.4 | 41.7 | 95.8 | 111.1 | 14.8 | 23.7 |

Note: Detail figures may not add to totals because of independent rounding. [1] Includes millfeed (hull meal). [2] Included in "All other" to avoid disclosure of figures for individual companies.

**Oilseed meals: Production, stocks, foreign trade, and domestic disappearance, October 1959-January 1960 and 1958-59 (1,000 tons)**

| | Stocks Oct. 1[1] | Production | Imports[2] | Exports | Domestic disappearance | Stocks Jan. 31[1] |
|---|---|---|---|---|---|---|
| **October 1959-January 1960** | | | | | | |
| Soybean | 58.5 | 3,235.2 | 0 | 318.8 | 2,876.3 | 98.6 |
| Cottonseed | 97.0 | 1,317.5 | 17.0 | 115.0 | 1,184.9 | 131.6 |
| Linseed | 33.3 | 154.1 | 1.8 | 47.0 | 97.1 | 45.1 |
| Copra | ..... | 42.2 | 1.3 | [3] | 43.5 | ..... |
| Peanut | 1.8 | 20.4 | 0 | [3] | 19.4 | 2.8 |
| Total | 190.6 | 4,769.4 | 20.1 | 480.8 | 4,221.2 | 278.1 |
| **October 1958-January 1959** | | | | | | |
| Soybean | 48.1 | 3,246.9 | 0 | 202.1 | 3,024.7 | 68.2 |
| Cottonseed | 71.2 | 1,121.6 | 53.4 | 4.7 | 1,161.9 | 79.6 |
| Linseed | 26.3 | 168.6 | 1.3 | 12.5 | 176.6 | 7.1 |
| Copra | 0.6 | 36.5 | 14.8 | [3] | 51.9 | ..... |
| Peanut | 1.5 | 25.2 | 0 | [3] | 24.2 | 2.5 |
| Total | 147.7 | 4,598.8 | 69.5 | 219.3 | 4,439.3 | 157.4 |

[1] Stocks at processing plants only. [2] Partly estimates. [3] Not available. Agricultural Marketing Service.

**SUPPLY, DISTRIBUTION** of soybeans, 1956-59, reported by Agricultural Marketing Service (1,000 bushels).

| | 1959-60 | 1958-59 | 1957-58 | 1956-57 |
|---|---|---|---|---|
| Carryover, Oct. 1 | 62,390 | 21,083 | 9,897 | 3,731 |
| Production | 537,895 | 579,713 | 483,715 | 449,446 |
| Total supply[1] | 600,285 | 600,796 | 493,612 | 453,177 |
| Farm use, including seed for season | 31,000 | 28,000 | 34,000 | 42,000 |
| Quantity remaining for processing, export, or carryover | 569,285 | 572,796 | 459,612 | 411,177 |
| Disappearance, Oct. 1 through February | | | | |
| Crushed for oil or processed[2] | 169,740 | 172,089 | 143,922 | 136,548 |
| Exported | [3]68,904 | 55,754 | 50,352 | 48,646 |
| Total | 238,644 | 227,843 | 194,274 | 185,194 |
| Balance on Mar. 1 for processing, export or carryover | 330,641 | 344,953 | 265,338 | 225,983 |

[1] Imports not included because negligible. [2] No allowance is made for new crop crushings prior to Oct. 1. [3] Estimated.


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**FACTORY USE VEGETABLE OILS** for December 1959 and January 1960. Reported by Bureau of the Census.

**Selected edible oils: Production, consumption, and factory and warehouse stocks January 1960 and December 1959 (million pounds)**

| | Cottonseed oil January 1960 | Cottonseed oil December 1959 | Soybean oil January 1960 | Soybean oil December 1959 |
|---|---|---|---|---|
| Production: | | | | |
| Crude oils | 221.6 | 226.7 | 370.5 | 369.2 |
| Refined oils (once-refined)[1] | 151.1 | 160.0 | 287.9 | 290.0 |
| Consumptoin in refining[1] | 164.2 | 175.4 | 296.9 | 304.1 |
| Consumption in selected edible and inedible products, [2]total | 96.8 | 98.7 | 274.9 | 271.6 |
| Consumption in edible products, total | 96.4 | 98.4 | 257.7 | 254.8 |
| Baking or frying fats | 28.2 | 27.5 | 97.4 | 94.6 |
| Salad or cooking oil | 54.0 | 54.8 | 51.8 | 50.0 |
| Margarine | 11.7 | 13.4 | 105.4 | 108.0 |
| Other edible products[3] | 2.5 | 2.7 | 3.1 | 2.2 |
| Stocks, end of month[2], total | 473.9 | 462.8 | 551.3 | 507.4 |
| Crude oils | 200.8 | 200.5 | 352.3 | 315.8 |
| Refined oils | 273.1 | 262.3 | 199.0 | 191.6 |

Note: Total consumption of oils in each end product may exceed sum of detail since only major edible oils are shown separately. [1] Production of refined oil covers only once-refined oil. Degummed soybean oil is reported as crude oil. [2] Includes hydrogenated fats and other fats and oils "in process," (e.g. refined cottonseed includes stocks of stearin). [3] Includes confectioners fats.

**TERMINAL STOCKS.** Agricultural Marketing Service's commercial grain stocks reports for close of business on Friday or Saturday preceding date of report (1,000 bushels).

| | Mar. 1 | Mar. 8 | Mar. 15 | Mar. 22 |
|---|---|---|---|---|
| **U. S. Soybeans in store and afloat at domestic markets** | | | | |
| Atlantic Coast | 6,075 | 5,690 | 5,498 | 5,071 |
| Gulf Coast | 2,375 | 1,820 | 2,602 | 2,688 |
| Northwestern | 5,622 | 5,477 | 5,634 | 5,824 |
| Lower Lake | 13,787 | 13,602 | 13,328 | 13,111 |
| East Central | 7,023 | 6,538 | 6,270 | 8,532 |
| West Central and Southwestern | 4,265 | 4,216 | 3,824 | 3,180 |
| Total, current week | 39,147 | 37,343 | 37,156 | 38,406 |
| Total, year ago* | 32,465 | 32,396 | 32,155 | 30,171 |
| **U. S. soybeans in store and afloat at Canadian markets[1]** | | | | |
| Total, current week | 420 | 386 | 344 | 282 |
| Total, year ago* | 298 | 264 | 230 | 176 |
| **Total stocks in above positions** | | | | |
| Total, current week | 39,567 | 37,729 | 37,500 | 38,688 |
| Total, year ago* | 32,763 | 32,660 | 32,385 | 30,347 |

* Revised. [1] For week earlier. U. S. soybeans reported include all in public elevators, including government-owned stocks, at 45 principal markets. Does not include stocks in elevators attached to crushing plants and other processing facilities.

**Primary receipts (1,000 bu.) of soybeans at important interior points for week ending:**

| | Feb. 26 | Mar. 4 | Mar. 11 | Mar. 18 |
|---|---|---|---|---|
| Chicago | 69 | 104 | 110 | 80 |
| Duluth | 39 | 46 | 33 | 6 |
| Indianapolis | 17 | 14 | 4 | 6 |
| Kansas City | 17 | 28 | 5 | — |
| Minneapolis | 106 | 90 | 62 | 62 |
| Omaha | 5 | 9 | 5 | 2 |
| Peoria | 11 | 7 | 4 | 12 |
| St. Louis | 8 | 24 | — | 19 |
| Toledo | 29 | 26 | 22 | 27 |
| Totals | 301 | 348 | 245 | 214 |
| Last year | 608 | 600 | 478 | 560 |
| CCC-owned stocks of soybeans in Chicago | 1,136 | 1,136 | 1,136 | 1,137 |
| Total Chicago soybean stocks | 10,279 | 10,120 | 9,842 | 9,623 |


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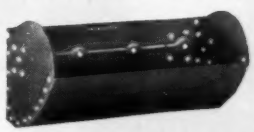

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**PRICE SUPPORT.** Quantities of 1959-crop soybeans put under support. From Agricultural Marketing Service (bushels).

| Warehouse-stored | Farm-stored loans | Purchase agreements | Current report as of Feb. 15, 1960 | Previous report as of Jan. 31, 1960 |
|---|---|---|---|---|
| 19,432,223 | 25,596,054 | 6,870,159 | 51,898,436 | 47,853,930 |

Of quantities of 1959-crop soybeans put under farm- and warehouse-stored loans, producers had redeemed 1,897,702 bushels through Feb. 15. Price support totals for 1958-crop soybeans through Feb. 15, 1959: 137,264,952 bushels.

**Loan and purchase agreement figures by states for 1959-crop soybeans reported under price support as of Feb. 15, 1960 (bushels)**

| | Loans stored | | Purchase agreements | Total quantity put under support |
|---|---|---|---|---|
| | Warehouse | Farm | | |
| Alabama | 0 | 33,097 | 0 | 33,097 |
| Arkansas | 769,237 | 1,375,017 | 3,723,657 | 5,867,911 |
| Delaware | 0 | 348 | 700 | 1,048 |
| Georgia | 2,049 | 23,925 | 0 | 25,974 |
| Illinois | 4,342,338 | 3,611,143 | 1,252,333 | 9,205,814 |
| Indiana | 449,761 | 1,356,379 | 106,328 | 1,912,468 |
| Iowa | 6,914,456 | 10,129,245 | 982,683 | 18,026,384 |
| Kansas | 158,114 | 543,702 | 21,934 | 723,750 |
| Kentucky | 40,888 | 102,974 | 4,000 | 147,862 |
| Louisiana | 0 | 22,283 | 4,000 | 26,283 |
| Michigan | 23,333 | 71,386 | 24,351 | 119,070 |
| Minnesota | 3,170,743 | 3,803,201 | 366,711 | 7,340,655 |
| Mississippi | 494,070 | 498,558 | 3,157 | 995,785 |
| Missouri | 2,015,461 | 2,048,320 | 124,037 | 4,187,818 |
| Nebraska | 71,274 | 305,361 | 55,945 | 432,580 |
| New Jersey | 0 | 4,130 | 0 | 4,130 |
| New Mexico | 576 | 0 | 0 | 576 |
| New York | 0 | 789 | 0 | 789 |
| North Carolina | 0 | 43,796 | 6,000 | 49,796 |
| North Dakota | 90,982 | 319,103 | 105,498 | 515,583 |
| Ohio | 519,857 | 852,366 | 28,725 | 1,400,948 |
| Oklahoma | 75,303 | 33,083 | 0 | 108,386 |
| Pennsylvania | 410 | 1,790 | 0 | 2,200 |
| South Carolina | 107,492 | 167,648 | 0 | 275,140 |
| South Dakota | 21,381 | 115,085 | 10,350 | 146,816 |
| Tennessee | 138,176 | 86,792 | 42,950 | 267,918 |
| Texas | 24,719 | 15,337 | 0 | 40,056 |
| Virginia | 0 | 16,092 | 0 | 16,092 |
| Wisconsin | 1,603 | 15,104 | 6,800 | 23,507 |
| Total | 19,432,223 | 25,596,054 | 6,870,159 | 51,898,436 |

**1959-crop soybeans put under support during February and January 1960 compared to 1958 crop put under during February 1959 (bushels)**

| February 1960 | January 1960 | February 1959 |
|---|---|---|
| 4,447,030 | 15,002,258 | 14,563,612 |

**Quantities of 1959 crop put under support through February 1960 compared to totals of 1958 crop put under support through February 1959 (bushels)**

| Warehouse-stored loans | Farm-stored loans | Purchase agreements | Total put under support through Feb. 29, 1960 | Total put under support through Feb. 28, 1959 |
|---|---|---|---|---|
| 19,457,819 | 25,819,115 | 7,024,026 | 52,300,960 | 138,868,232 |

Of the quantities of 1959 soybeans put under farm- and warehouse-stored loans, producers through February 1960 had repaid loans on 2,420,686 bushels of soybeans. Mississippi, 229,011 bushels; and Missouri, 209,028 bushels. A total of 13,650,430 bushels of 1958-crop soybeans were under reseal as of Feb. 29.

**PRICES.** Average prices for soybeans received by farmers, effective parity, and support rates, reported by Agricultural Marketing Service (dollars per bushel).

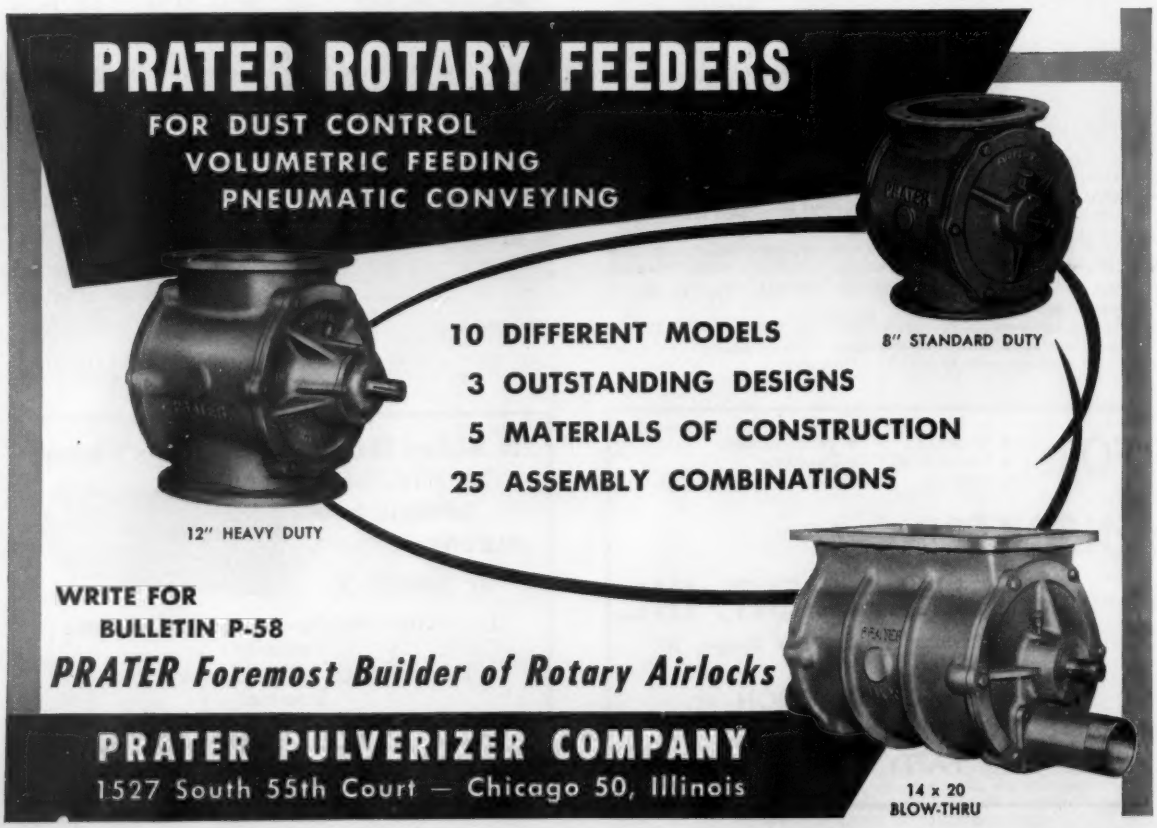
| Average farm price | | | Effective parity | Av. price as percent of parity | National average price support rate | | |
|---|---|---|---|---|---|---|---|
| Feb. 15, 1960 | Jan. 15, 1960 | Feb. 15, 1959 | Feb. 15, 1960 | Feb. 15, 1960 | 1960 crop | 1959 crop | 1958 crop |
| 1.99 | 2.01 | 2.05 | 2.91 | 68 | 1.85 | 1.85 | 2.09 |

Average farm and parity prices from crop reporting board.

**Soybean prices compared with market value of soybean oil and meal**

| | Soybean oil | | Soybean meal | | Value of oil and meal from bushel of soybeans[1] | Market price No. 1 yellow soybeans Ill. pts. | Spread between soybean price and value of oil and meal |
|---|---|---|---|---|---|---|---|
| | Average price at crushing plant Cts. per pound | Value from bu. of soybeans[1] | Bulk price at Decatur Dollars per ton | Value from bu. of soybeans[1] | | | |
| | | Dollars | | Dollars | Dollars | Dollars per bu. | Cents |
| Feb. 1960 | 7.6 | 0.84 | 57.50 | 1.35 | 2.19 | 2.06 | 13 |
| Jan. 1960 | 7.7 | 0.85 | 61.50 | 1.45 | 2.30 | 2.11 | 19 |
| Dec. 1959 | 7.7 | 0.85 | 58.70 | 1.38 | 2.23 | 2.08 | 15 |
| Nov. 1959 | 8.0 | 0.88 | 58.50 | 1.37 | 2.25 | 2.09 | 16 |
| Oct. 1959 | 8.6 | 0.95 | 56.60 | 1.33 | 2.28 | 2.01 | 27 |
| Feb. 1959 | 9.3 | 1.02 | 54.75 | 1.29 | 2.31 | 2.15 | 16 |

[1] Based on assumption that a bushel of soybeans yields 11 pounds of oil and 47 pounds of meal. This table is for statistical comparison only. It does not reflect actual operating margins.

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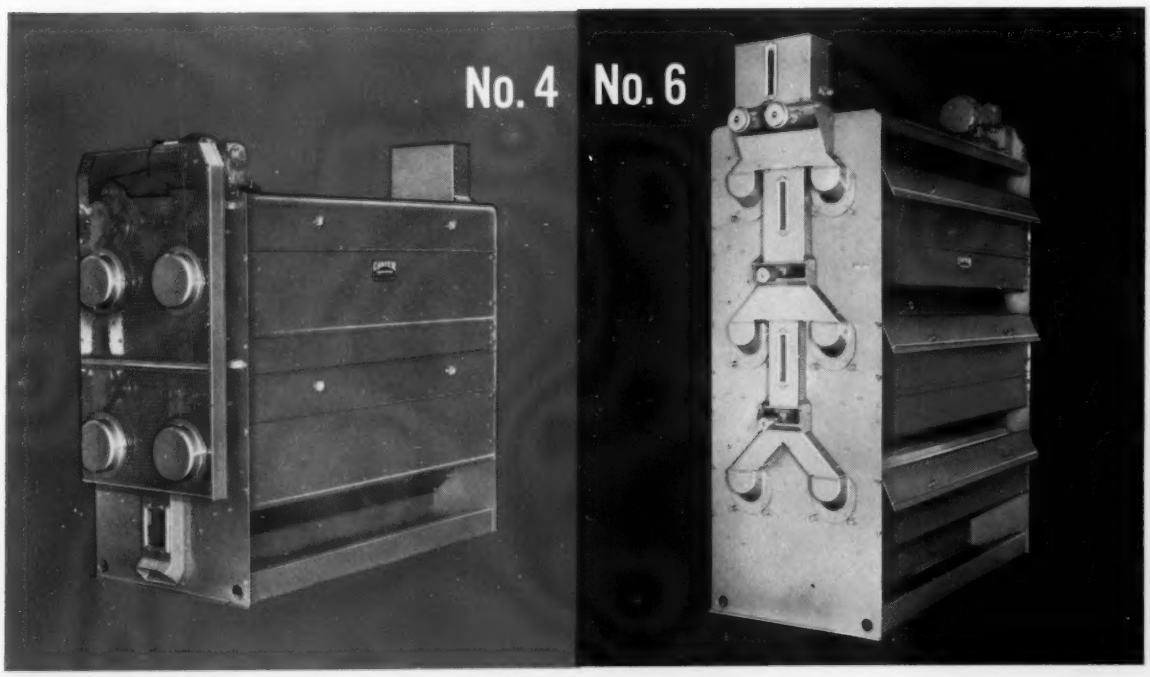


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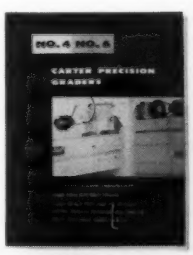


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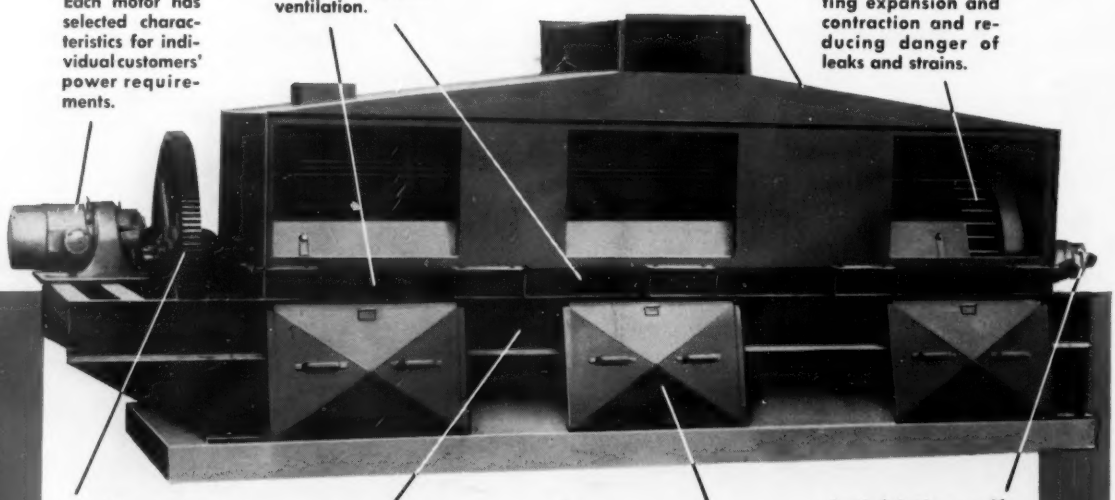
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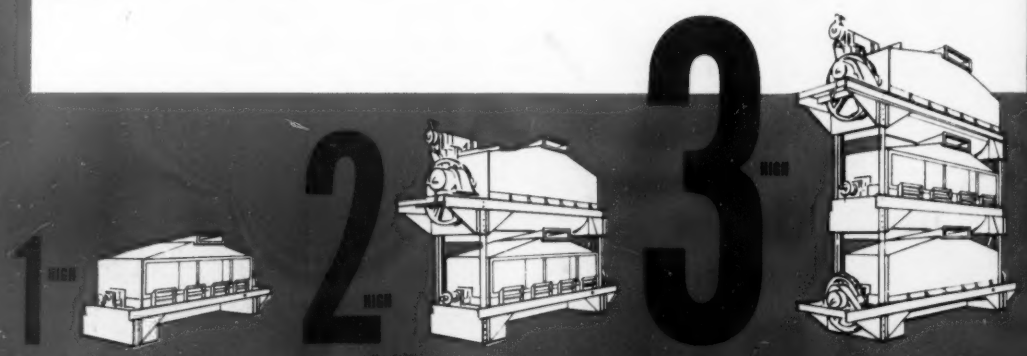


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